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Montague(10) **Patent No.:** **US 7,503,502 B2**
(45) **Date of Patent:** **Mar. 17, 2009**(54) **COMPUTER READABLE HANG TAG AND PRODUCT**4,511,033 A 4/1985 May
4,812,633 A 3/1989 Vogelgesang et al.(75) Inventor: **David Montague**, Mapleton, UT (US)

(Continued)

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Trademark Office in connection with U.S. Appl. No. 09/488,079.(65) **Prior Publication Data**

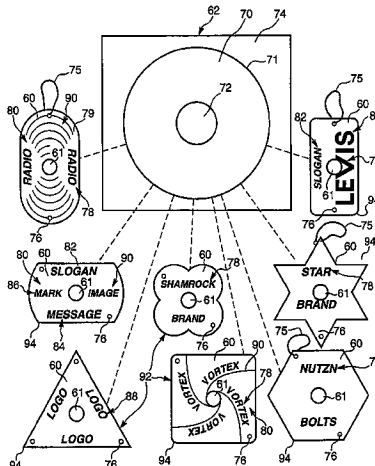
US 2007/0108292 A1 May 17, 2007

Primary Examiner—Daniel A Hess(74) *Attorney, Agent, or Firm*—Pate Pierce & Baird**Related U.S. Application Data**(63) Continuation of application No. 09/488,079, filed on
Jan. 20, 2000, which is a continuation-in-part of appli-
cation No. 09/306,077, filed on May 6, 1999, now Pat.
No. 6,298,332.(51) **Int. Cl.**
G06K 19/00 (2006.01)
G06Q 30/00 (2006.01)(52) **U.S. Cl.** **235/487; 705/14**(58) **Field of Classification Search** **235/487,**
235/383; 40/299.01; 705/14; 428/40.1
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**

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(57) **ABSTRACT**

A user-computer-readable medium provides all or part of a product labeling system for engaging purchasers. Executables, data, or both are recorded in the medium embodied in a tag or other product labeling structure, in order to deliver to a consumer or purchaser engaging presentations of products, information, or registration templates. As a result, purchasers may receive launchers, browsers, viewers, e-mail systems, facsimile centers, players, or interface brokers for the foregoing, if organically installed already on a workstation of a purchaser. Software may provide catalog presentations, user registration templates, communications, linkers, or engines, and the like. Operation modules and profile builders may provide information over ready links implemented by software on the medium. In certain embodiments, entertainment, games, skill tests, and the like, recorded in the medium as a tag or label may execute to engage a purchaser and provide purchaser profiling information, product purchasing information, and the like to a vendor, while providing additional product information, warranty registrations, applications, entertainment, or the like, to a purchaser.

24 Claims, 20 Drawing Sheets

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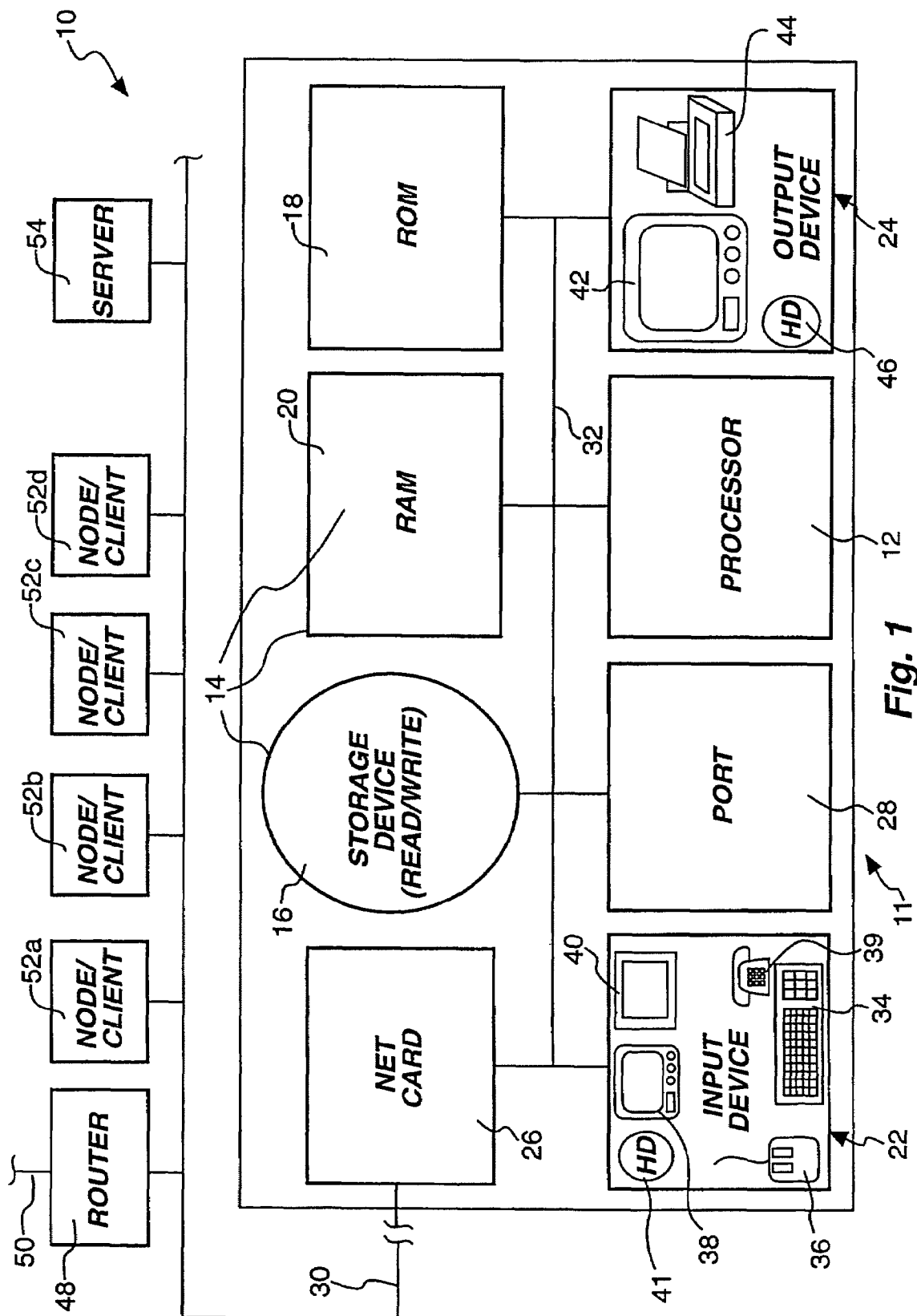


Fig. 1

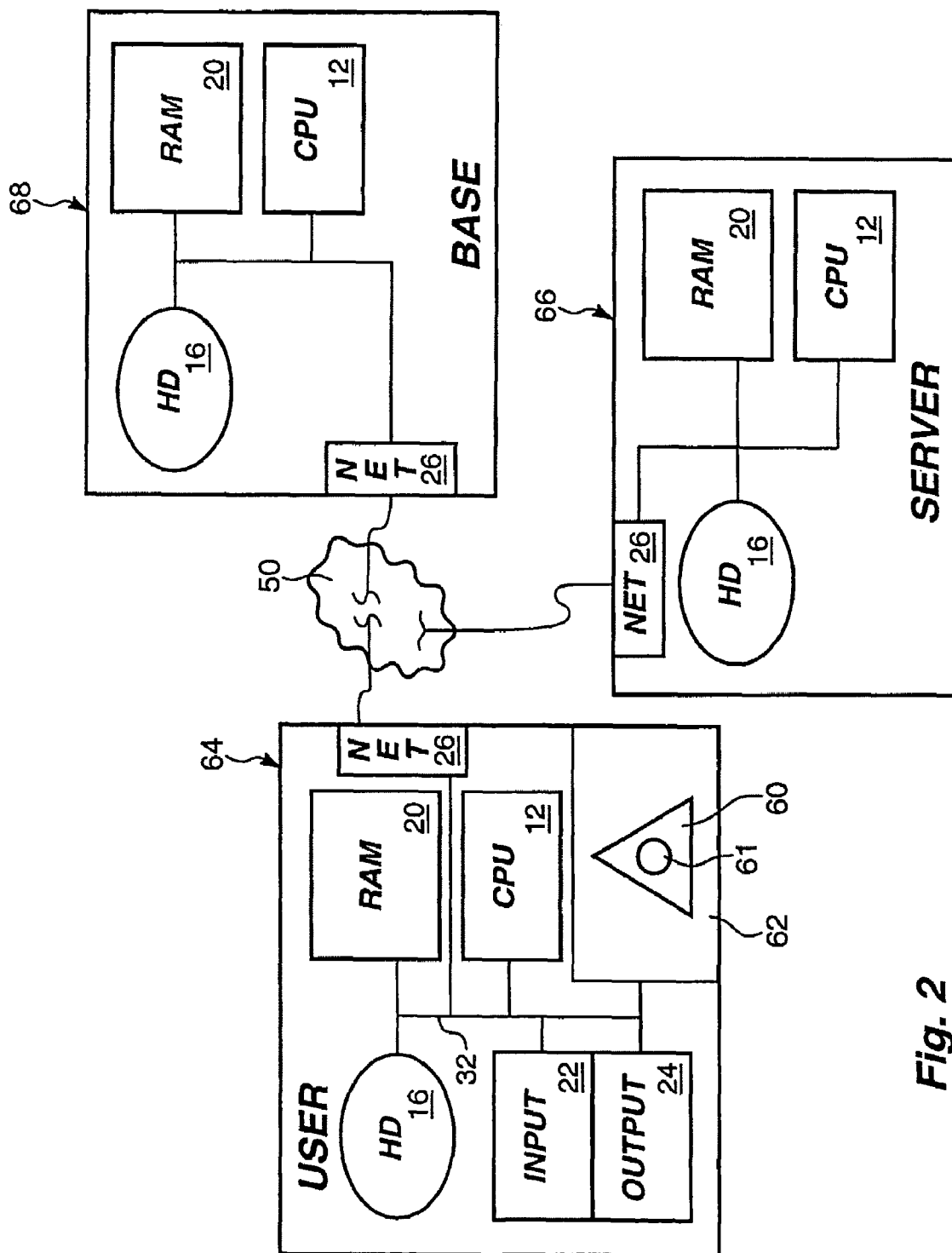
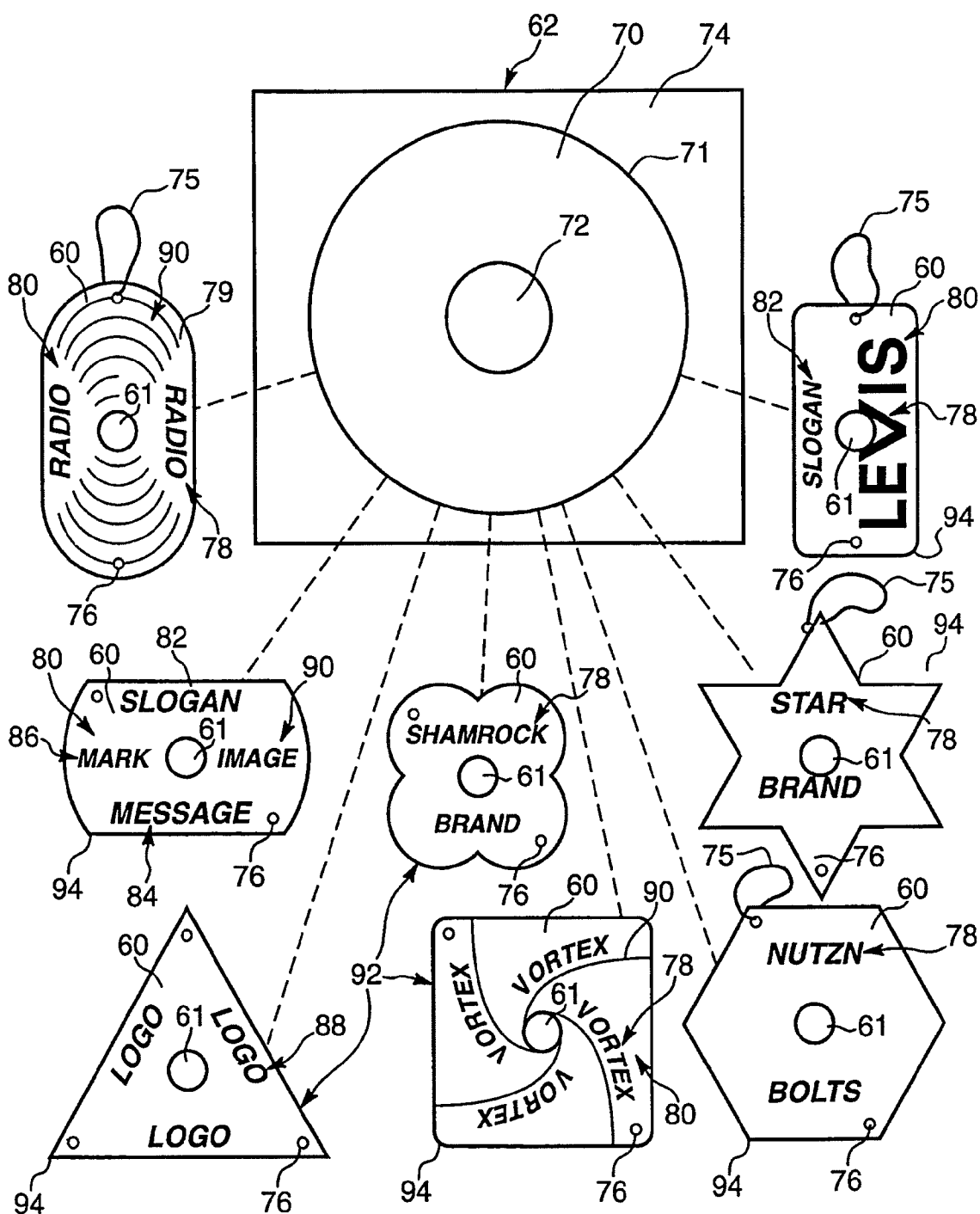


Fig. 2

**Fig. 3**

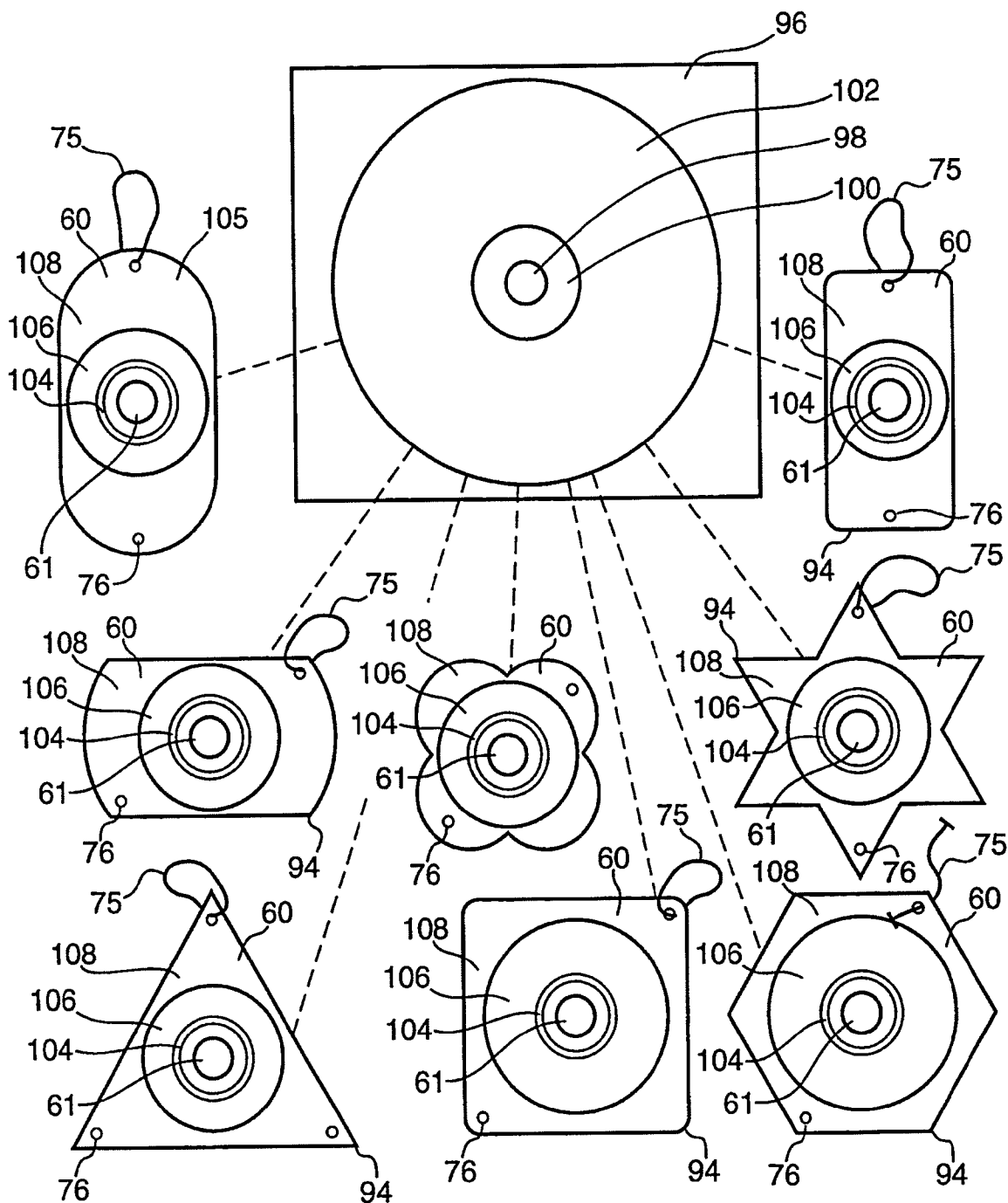
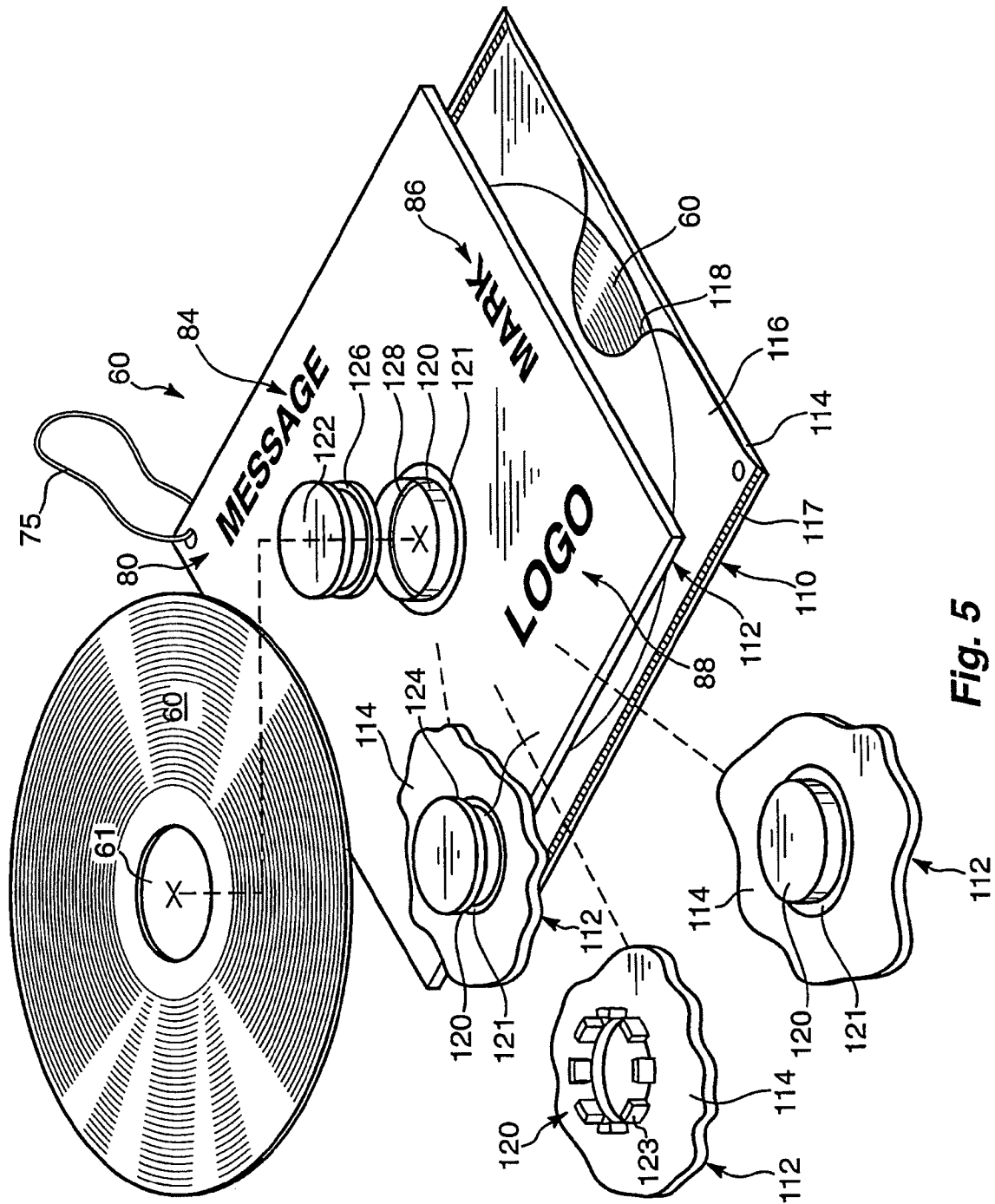


Fig. 4



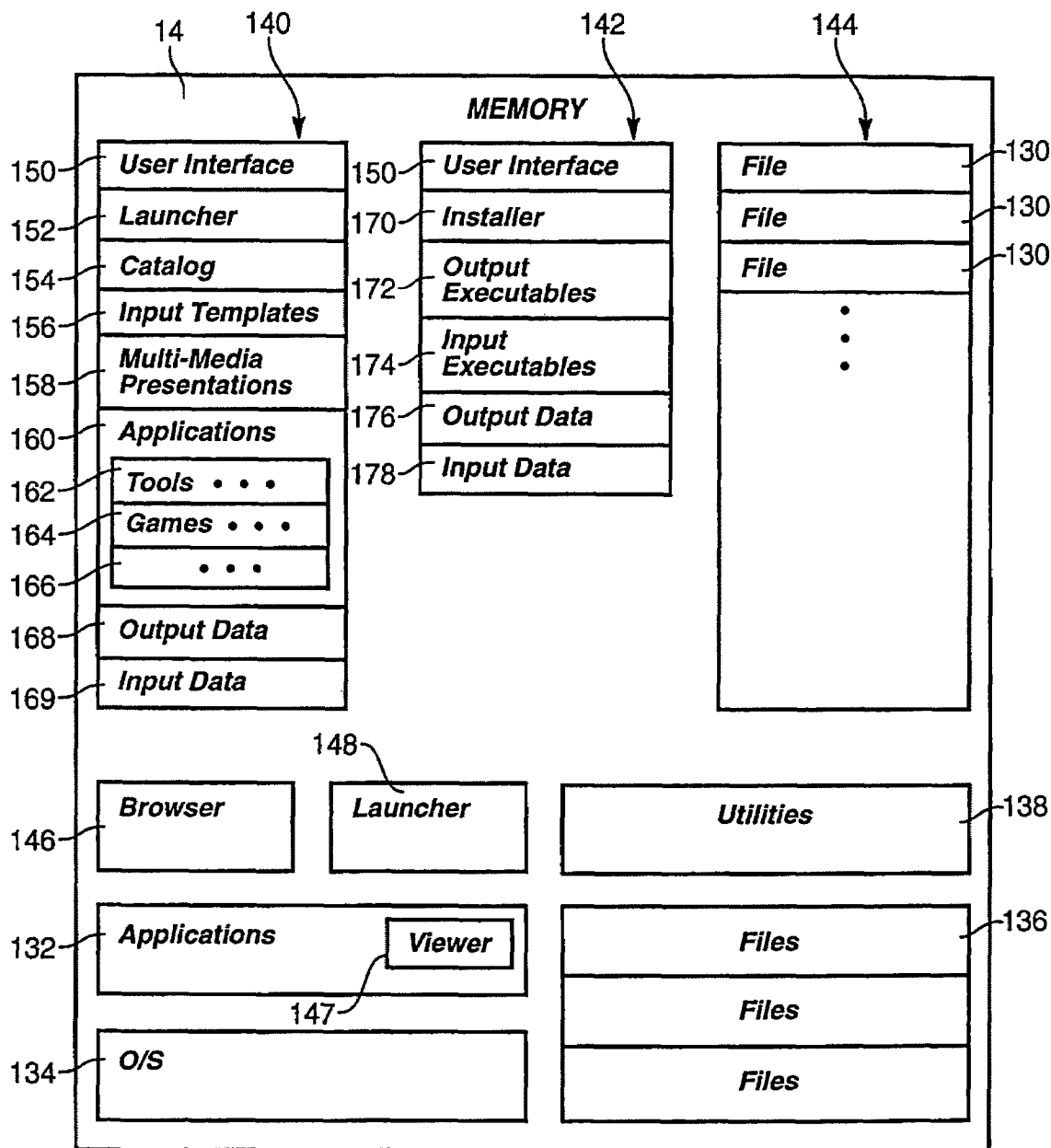


Fig. 6

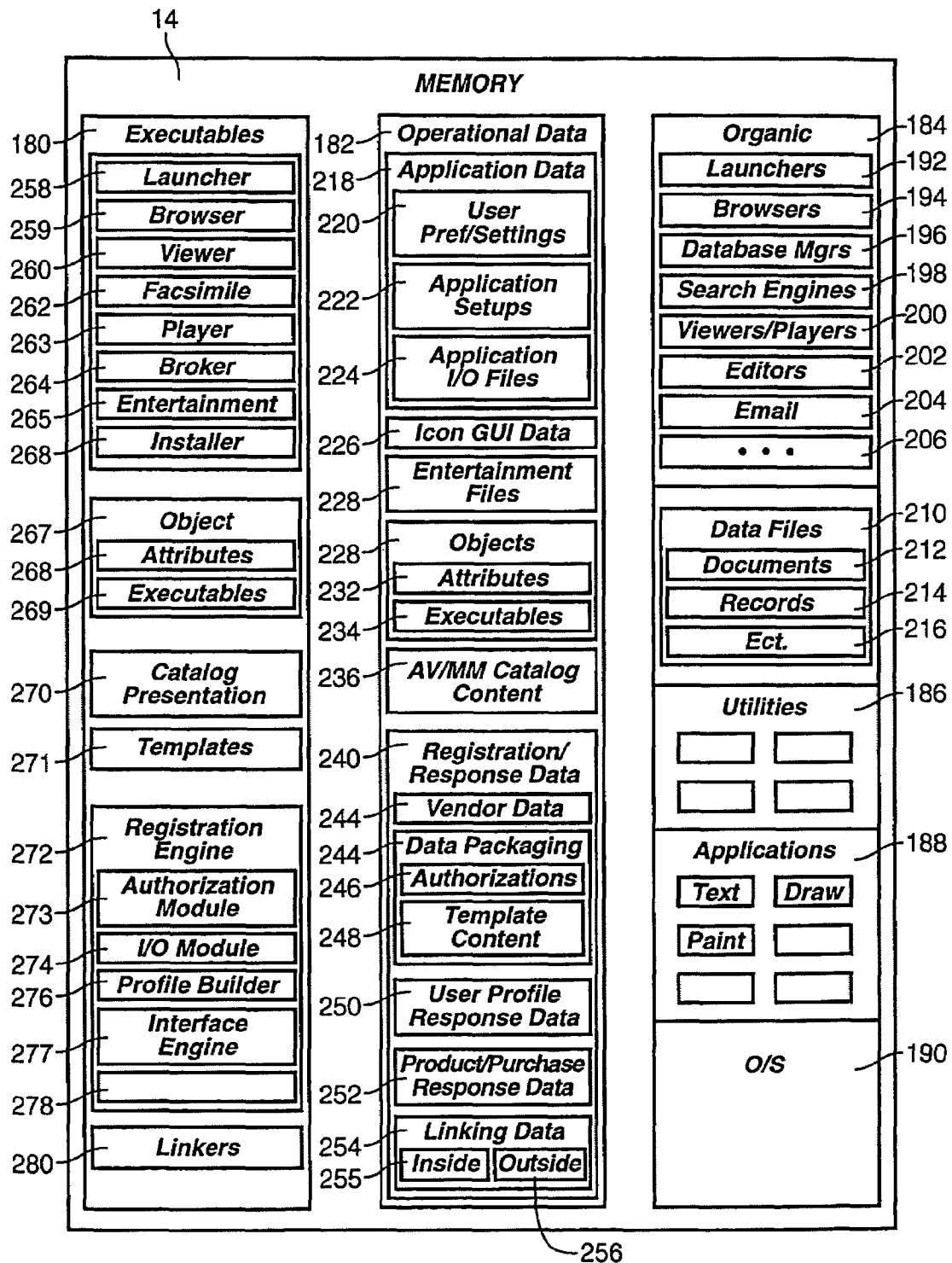


Fig. 7

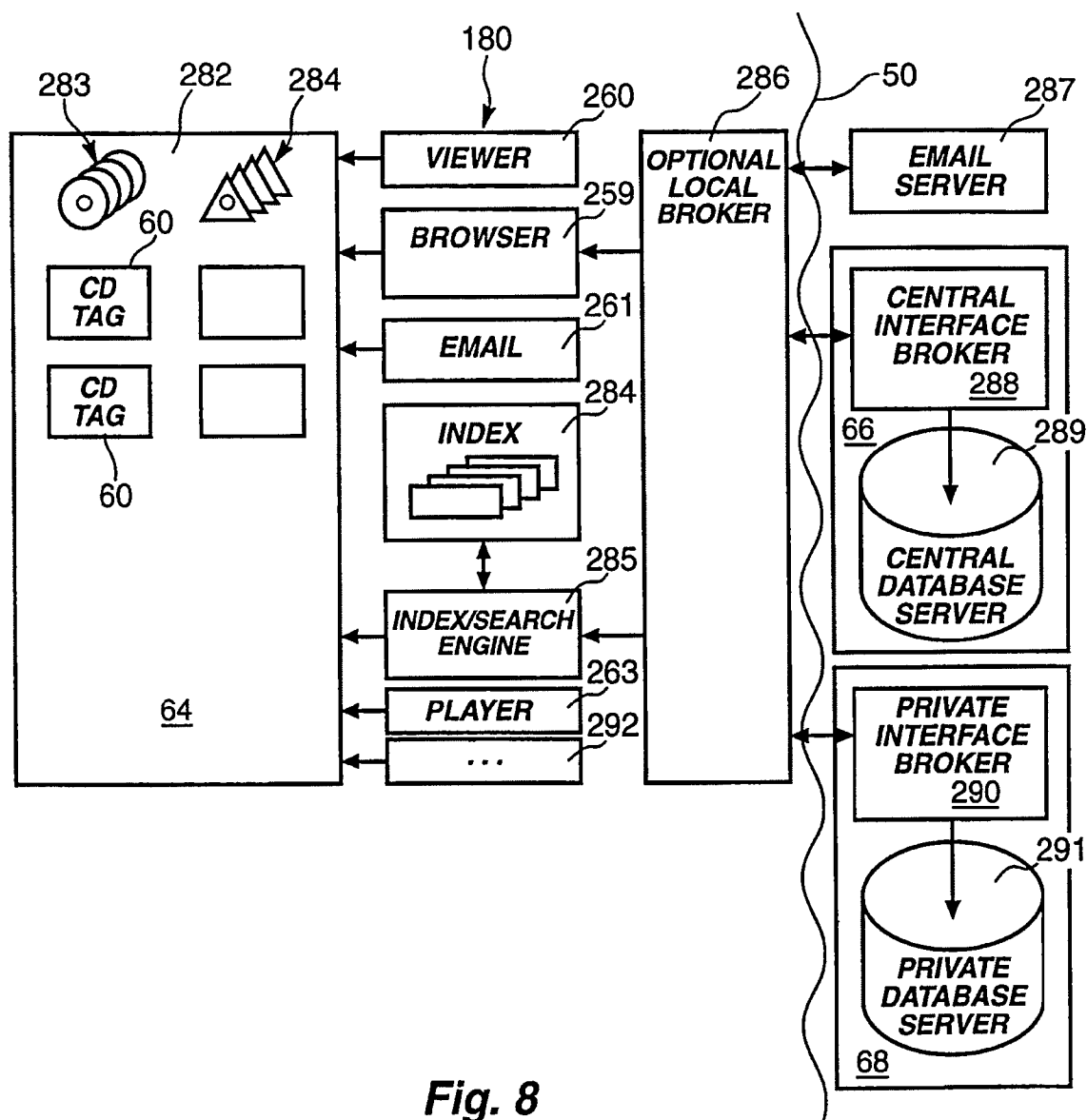


Fig. 8

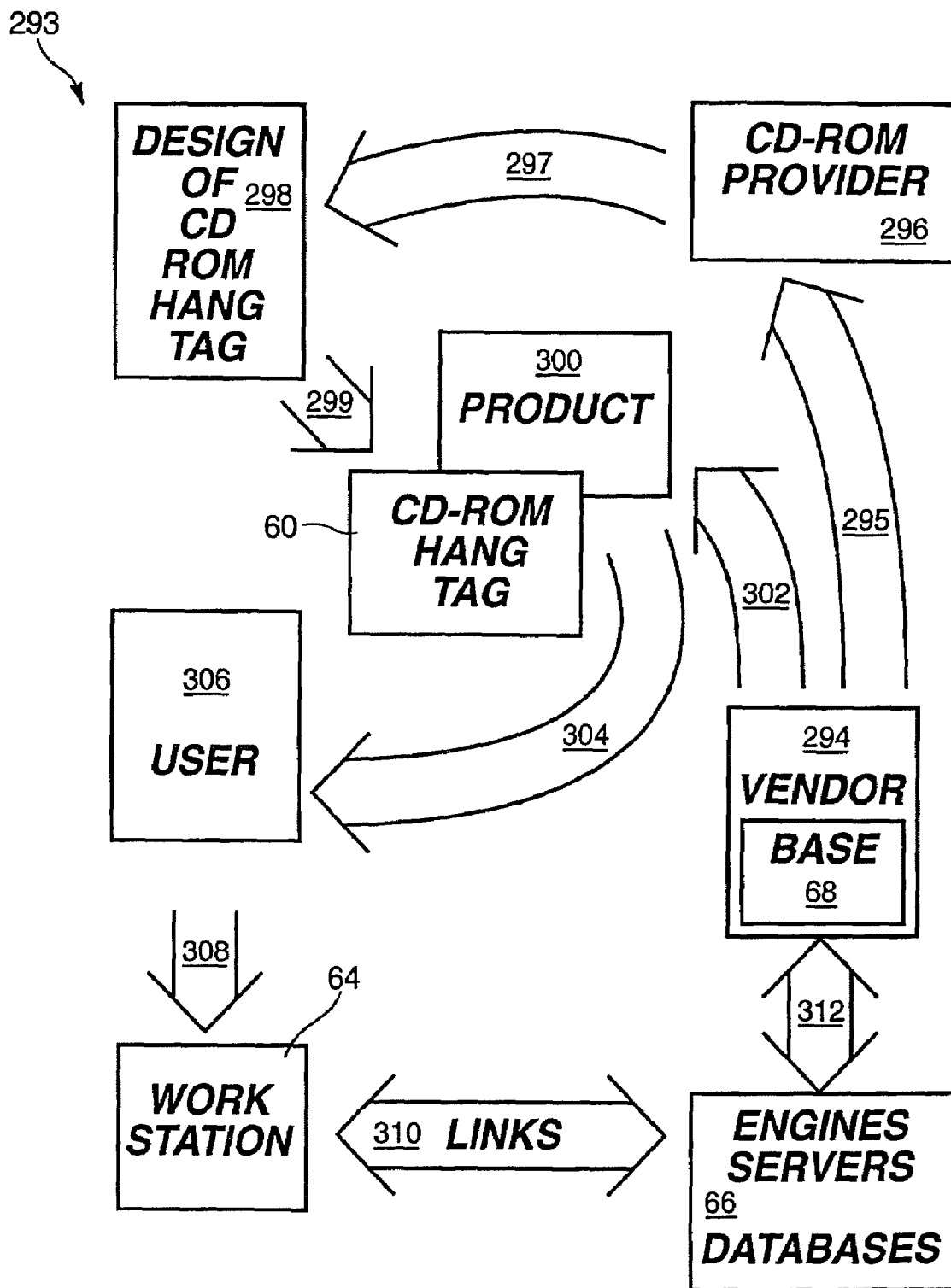
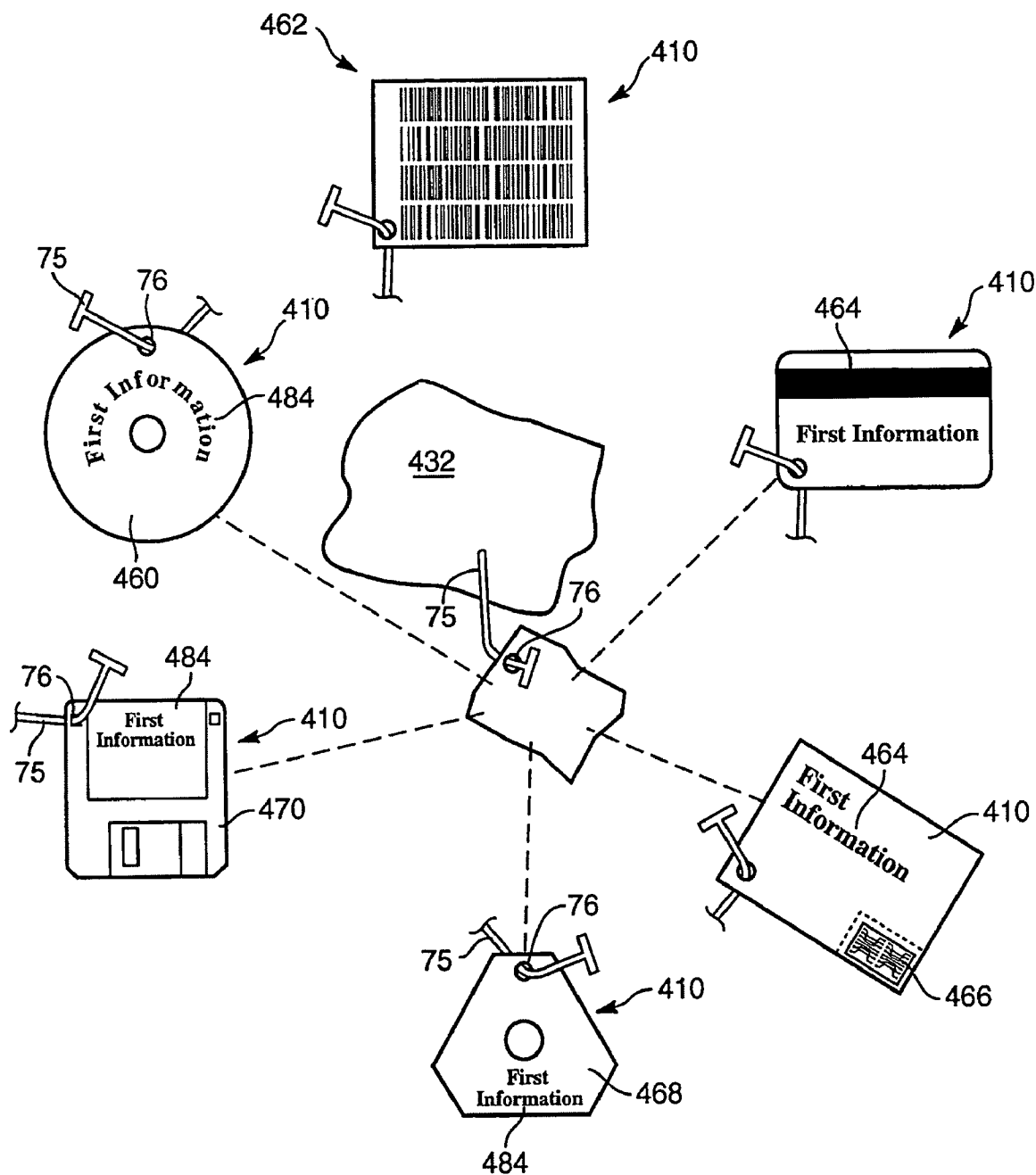


Fig. 9

**Fig. 10**

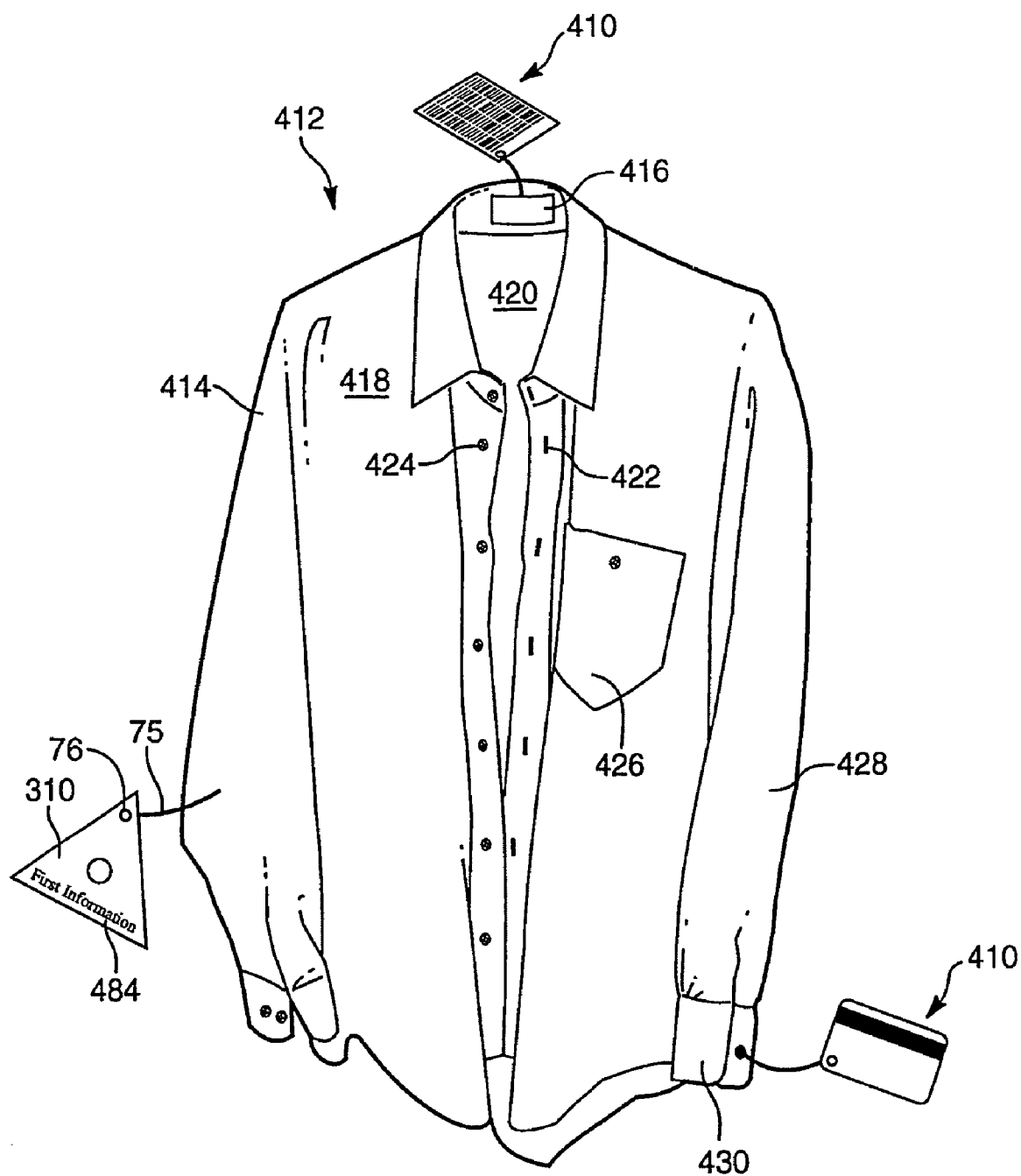


Fig. 11

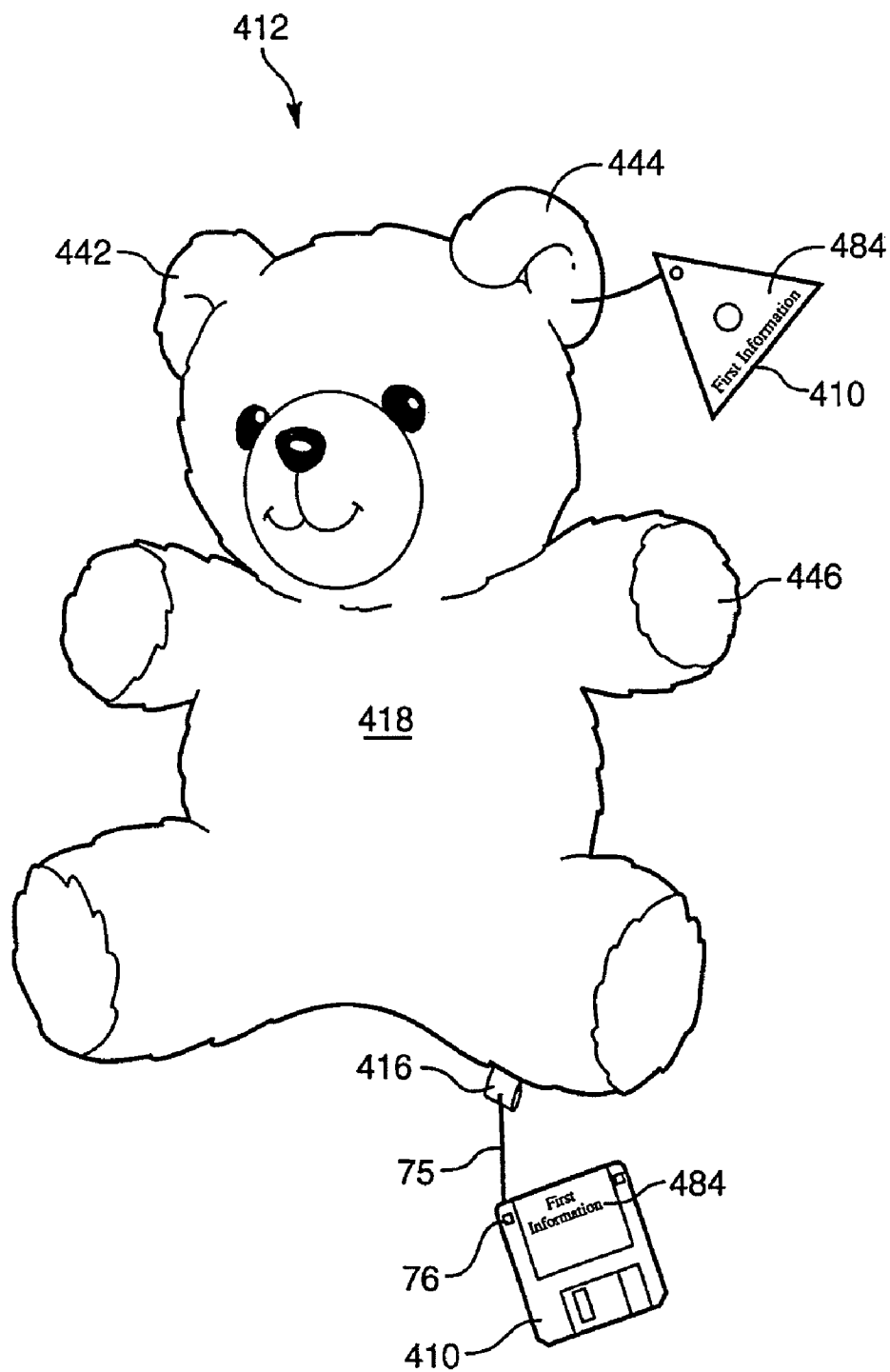


Fig. 12

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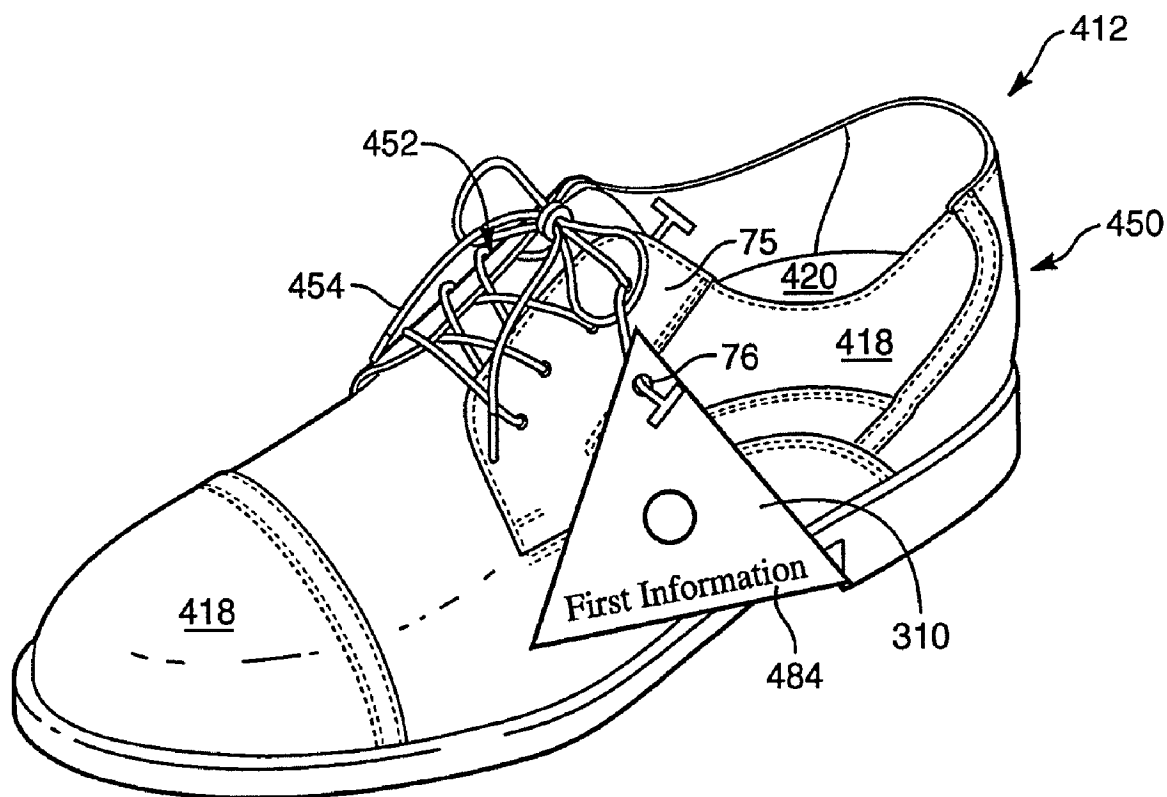


Fig. 13

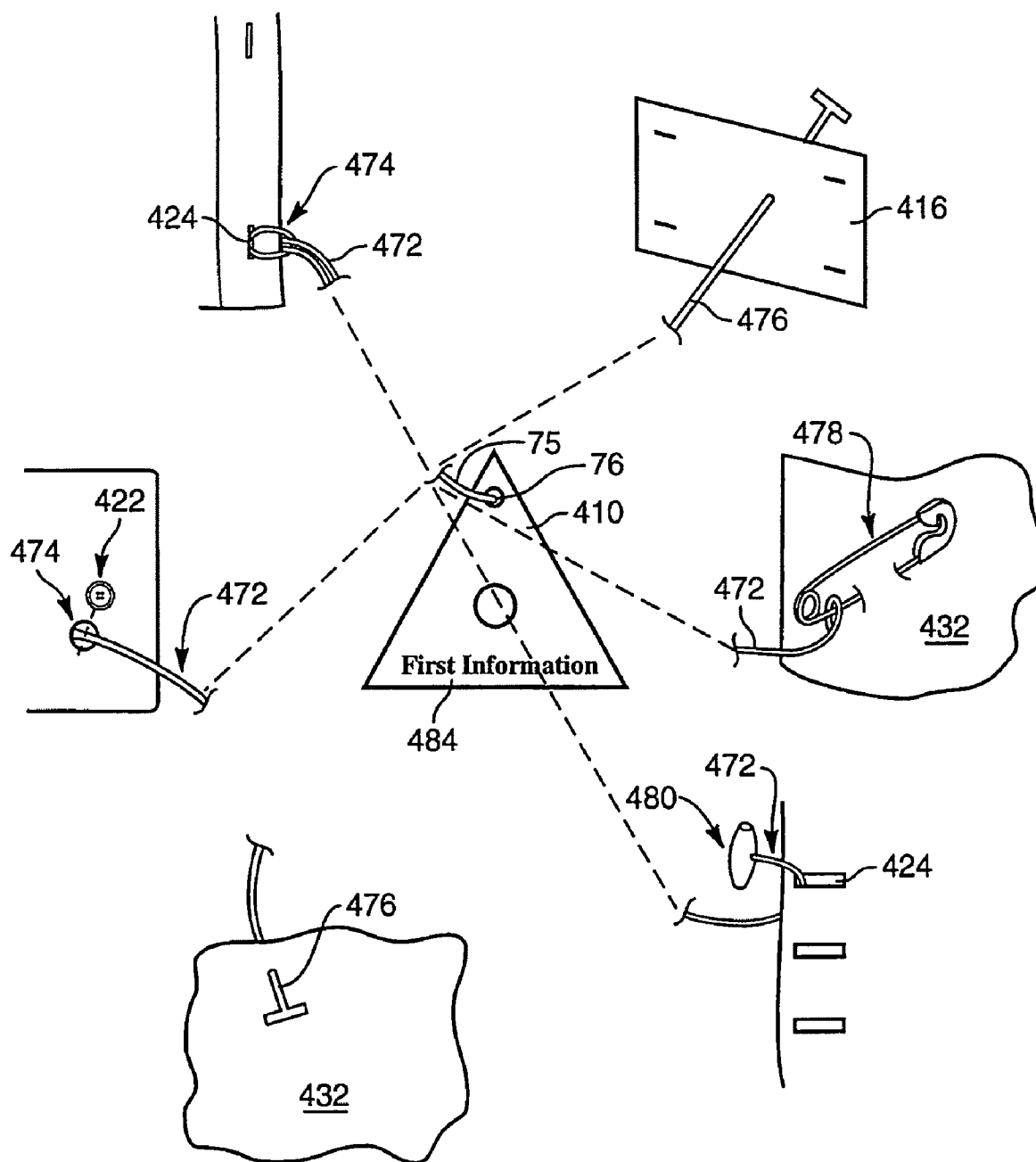


Fig. 14

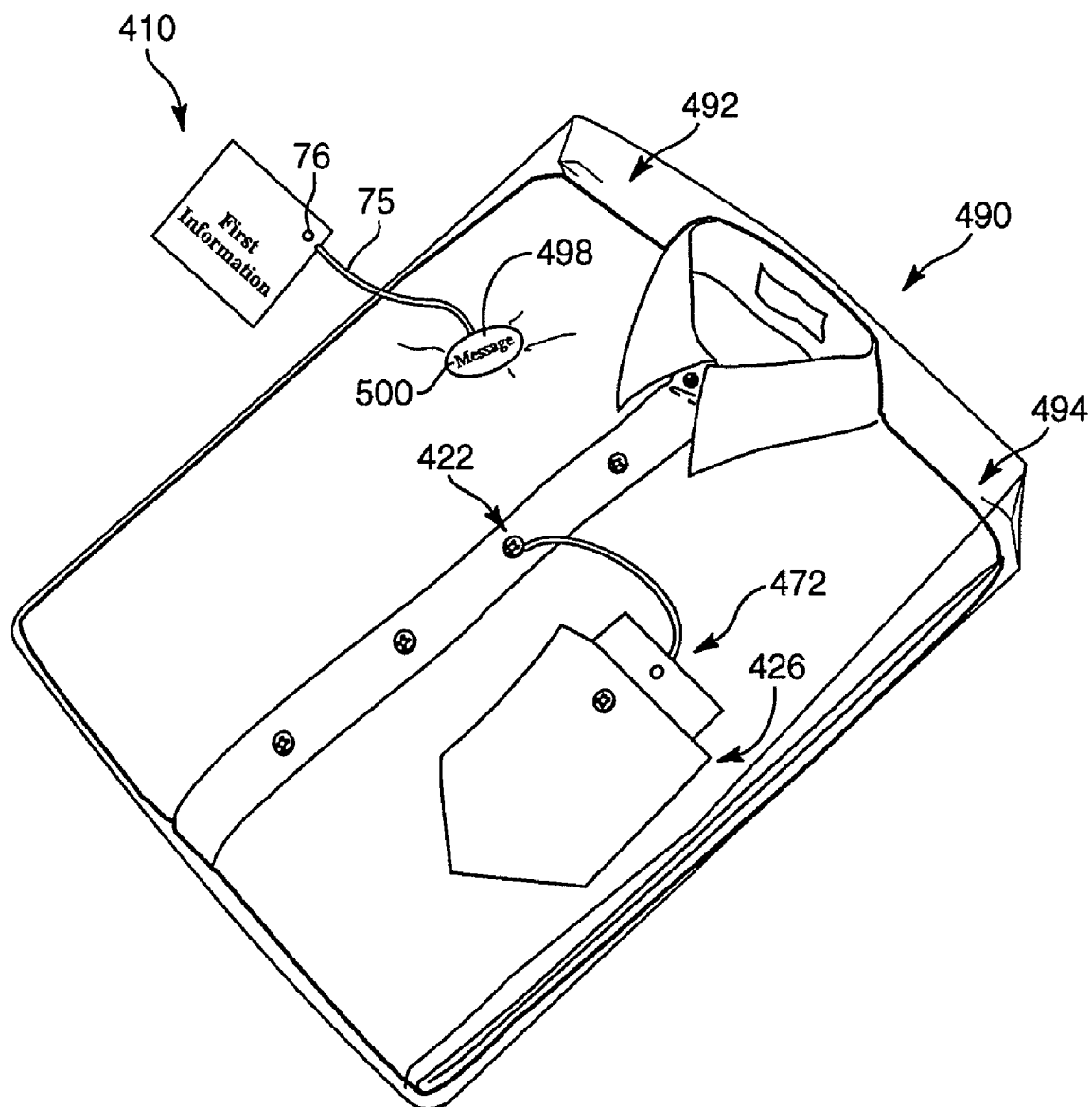


Fig. 15

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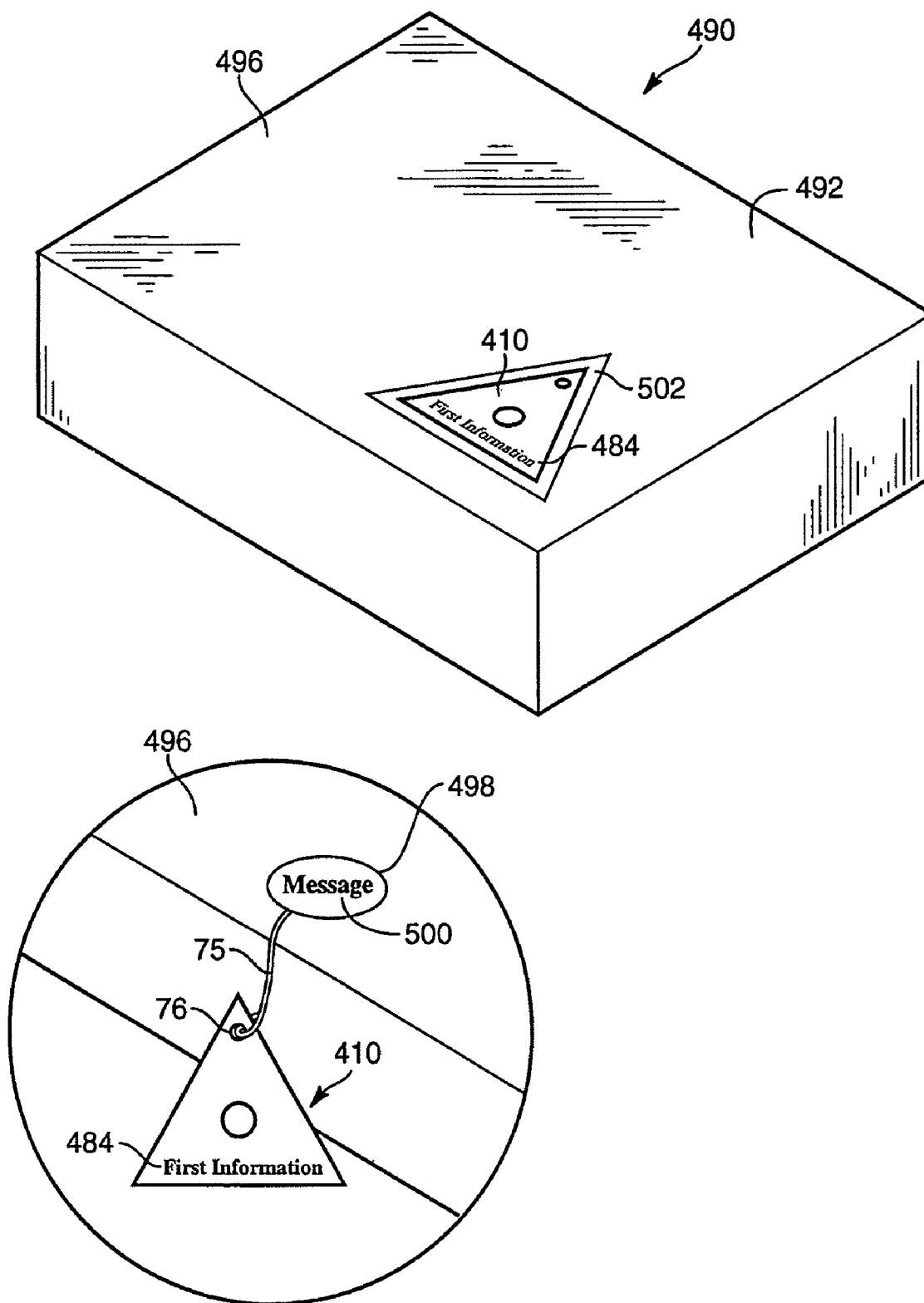


Fig. 16

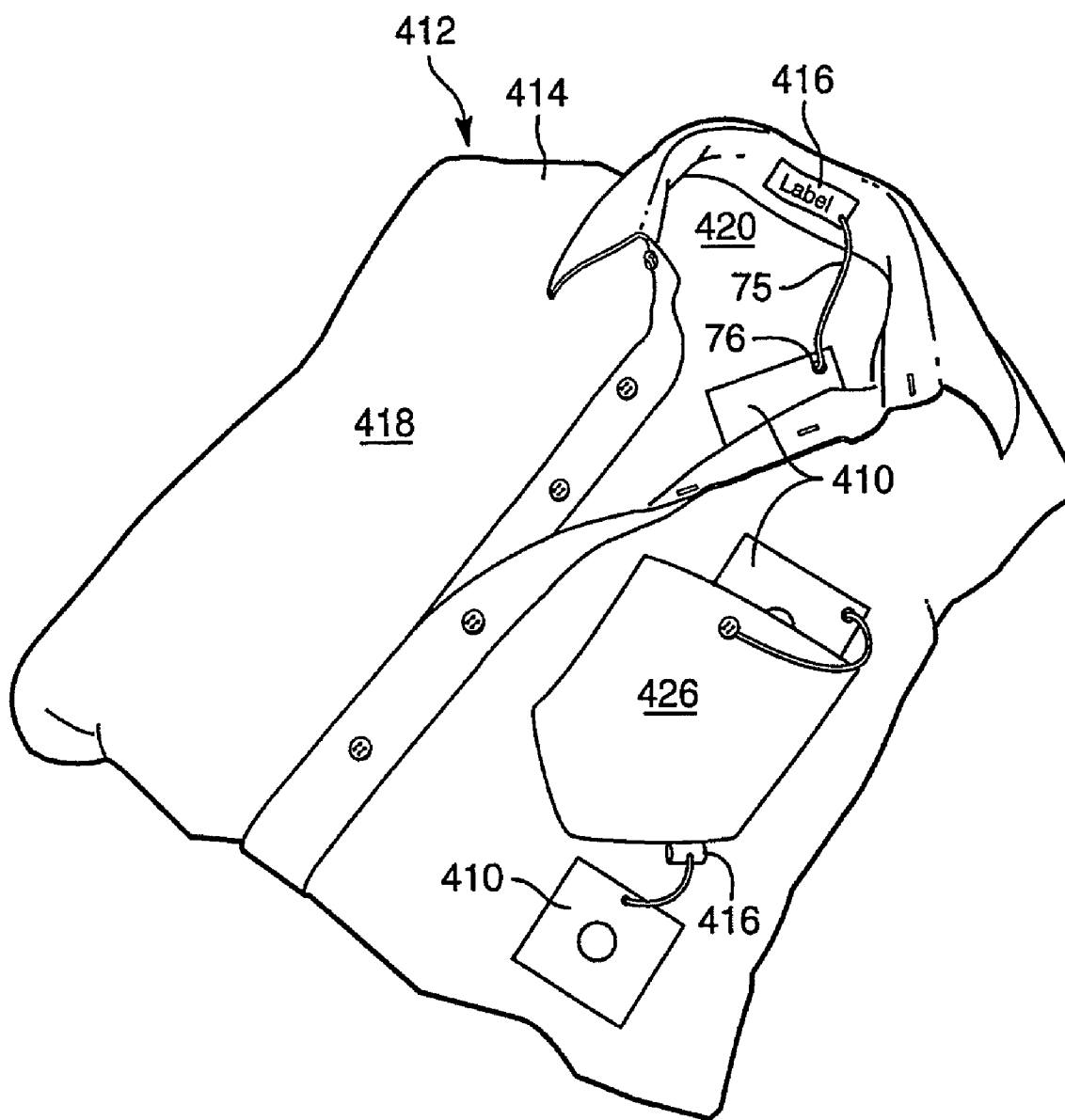


Fig. 17

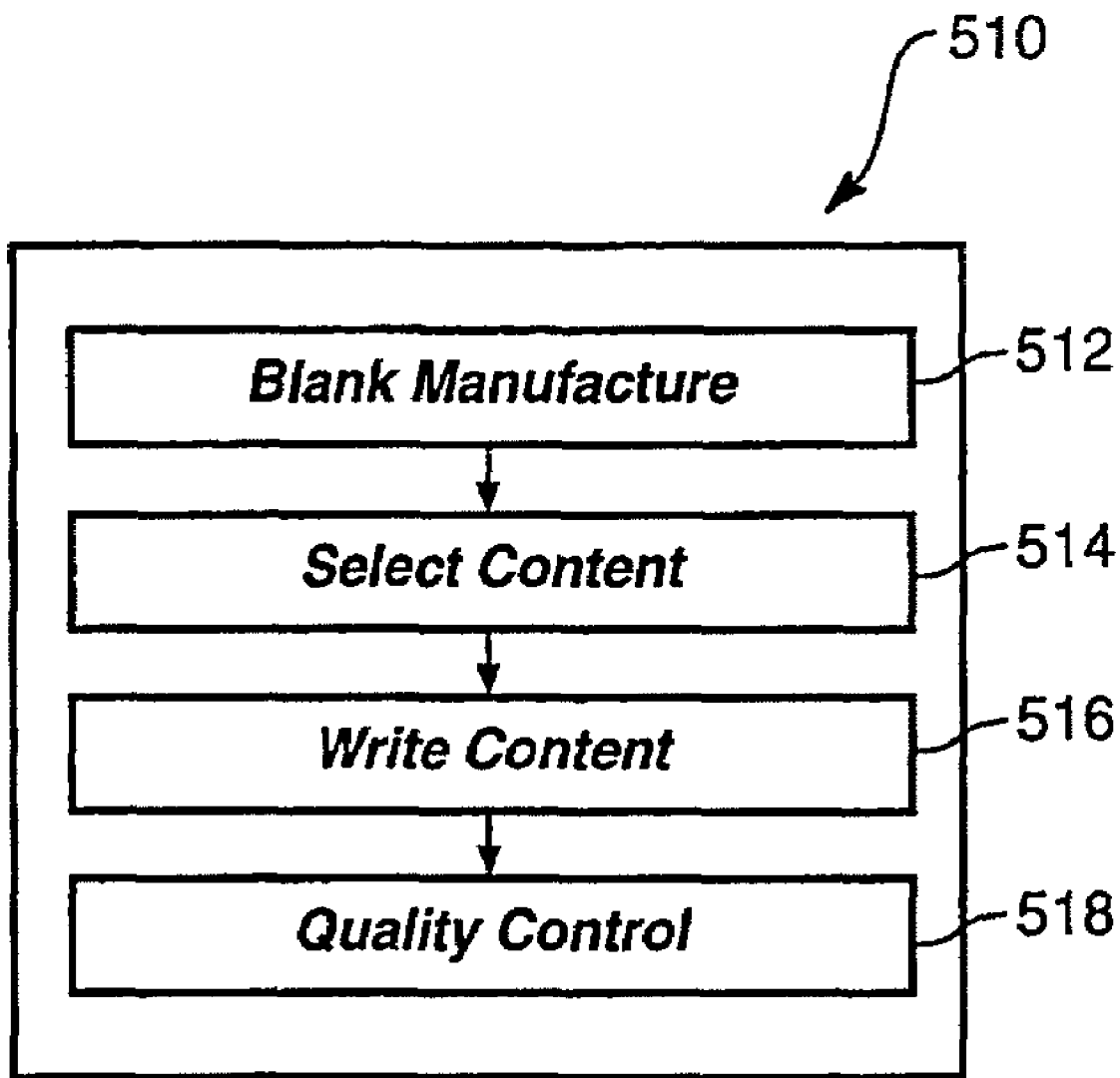
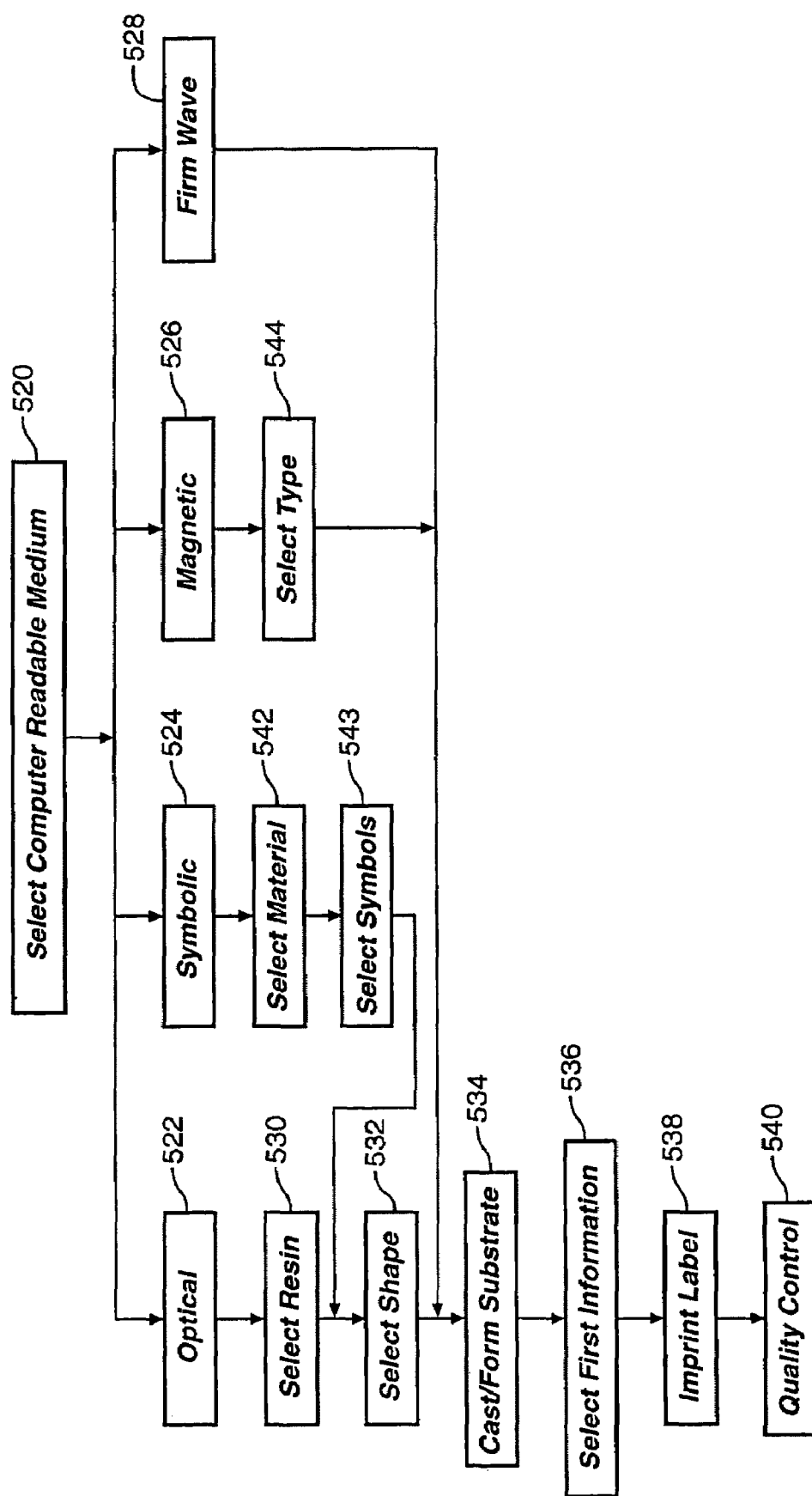


Fig. 18

*Fig. 19*

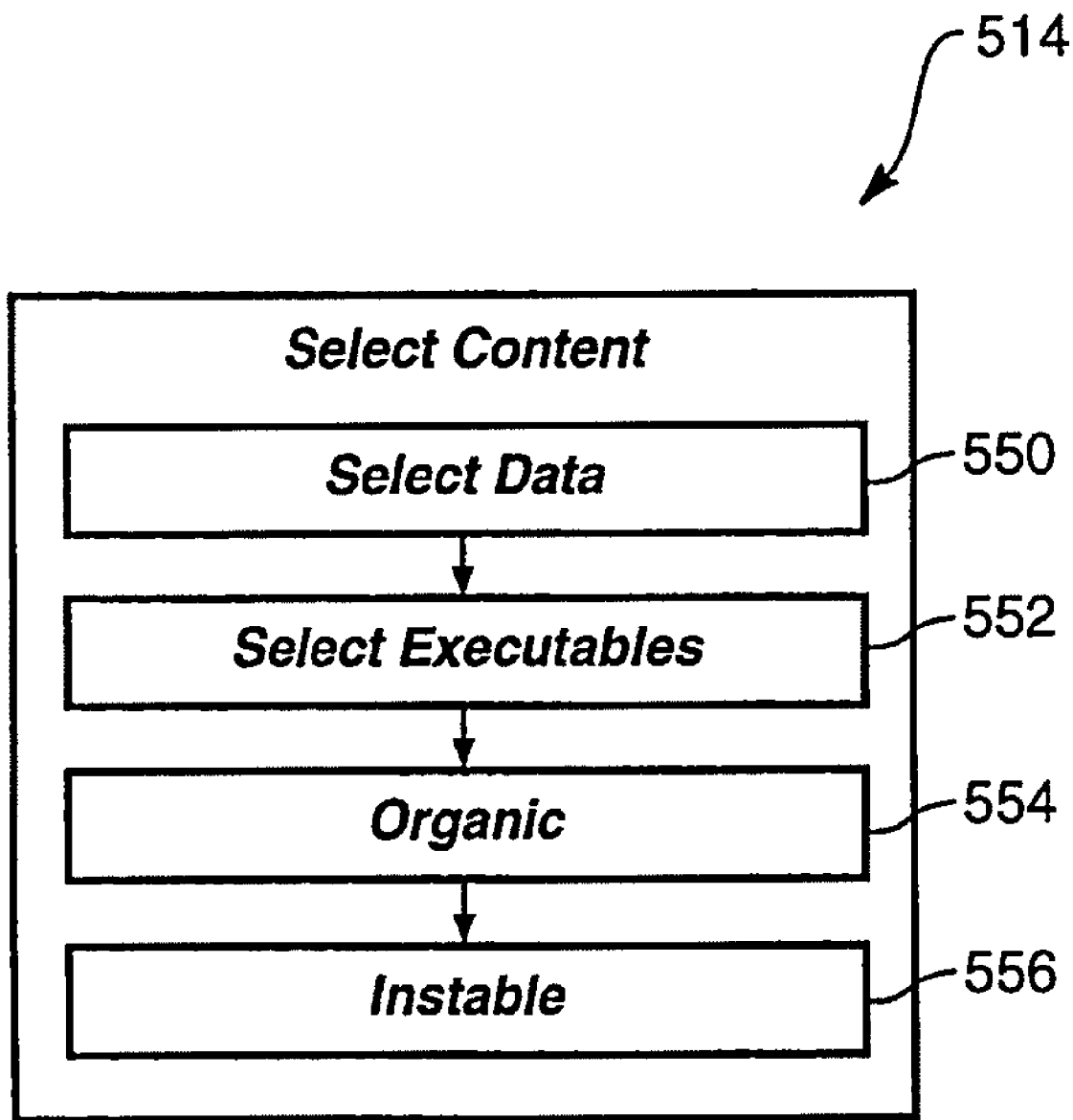


Fig. 20

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**COMPUTER READABLE HANG TAG AND
PRODUCT****RELATED INVENTIONS**

This application is a continuation of U.S. application Ser. No. 09/488,079 filed Jan. 20, 2000 which is a continuation-in-part of U.S. Pat. No. 6,298,332 issued Oct. 2, 2001.

BACKGROUND**1. The Field of the Invention**

This invention relates to product labeling and, more particularly, to novel systems and methods for providing electronic feedback and user information by registration with vendors of products.

2. The Background Art

Product registration is always a concern of manufacturers and vendors of products. Information concerning user purchases, attitudes, circumstances, and the like are matters of great interest. However, user registration through warranty cards and the like meet with only limited success. Moreover, limited information is provided.

Likewise, brand loyalty is not necessarily detectible nor useful to such vendors and manufacturers. An ability to obtain user registration information for warranty and follow-up sales activity often lacks any great consumer or user motivation. Thus, not only information is lacking by motivation, and any continuing link with a consumer or user may be absent.

What is needed is a system and method for enabling a comparatively long term relationship to exist between a supplier, manufacturer, vendor of goods or services, and the consumer, purchaser, or user of same.

An advance in the art might provide additional services to a consumer or user as well. For example, personal information such as shoe sizes, clothing sizes, recreational goods, preferences in recreational or business activities, and the like might be extremely valuable information for a user to maintain and catalog for future use. Also, such personal purchasing information might be invaluable to suppliers of goods and services. Moreover, it would be an advancement in the art to provide a system and method for purchasers to maintain key information regarding their own preferences and purchases as well as providing to users historical information that they may reference in the future. To the extent that a consumer or purchaser desires to provide such information to a vendor during a search for new or replacement goods or services, having ready access to such information could be invaluable to both a purchaser and a vendor.

Thus, it would be an advance in the art to provide an easy interaction apparatus and method for identifying and recording product or purchasing information, personal preference information, and the like, for ready provision of same to a purchaser and to a vendor upon request and authorization.

**BRIEF SUMMARY AND OBJECTS OF THE
INVENTION**

In view of the foregoing, it is a primary object of the present invention to provide a computer-readable medium product label providing a link back from a purchaser to a vendor. In certain embodiments, an apparatus and method in accordance with the invention may provide operational data, executables, linking information, suitable software, templates, and the like for facilitating an exchange of information between vendors and purchasers. For example, templates for collecting and delivering user information including warranty data, user

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preferences and motivations, and the like may be integrated with warranty reporting information, and other useful data in a delivery system built upon a computer-readable medium product label, such as a hang tag or any tag attached to a product. In certain embodiments, executables and operational data may be delivered to a user on a computer-readable medium that alone, or in combination with other packaging materials, presents a panoply of multimedia presentations, games, entertainment, and information-collection applications.

For example, a product may be labeled with a tag that includes a computer-readable medium of an ordinary or novel shape. The novel shape may also be labeled with various slogans, messages, trade-marks, images, logos, or the like, provided by the vendor. Meanwhile, the computer-readable medium product label may contain multimedia catalog presentations; products information regarding the exact product on which the tag was shipped from a manufacturer; a registration engine for registering user information and product information simultaneously; a profile builder for identifying additional user information that a purchaser is willing and interested in providing, such as preferences in entertainment, software, music, video, gaming, or the like; and other useful software.

Software available on a computer-readable medium product label may include a launcher, browser, viewer, e-mail, facsimile sender, player, or other executables as well as vendor data. Moreover, such software may be programmed to invite, entice, motivate, and facilitate providing information by a user to be reported back to a vendor. A concierge or valet provides ready access to important information required by a purchaser at the time or point of purchase. Software may also collect and provide to a user or a vendor, or both, upon request and authorization, any amount of vendor or purchaser information deemed useful.

The computer-readable medium product label, may be configured to be attached to a variety of products including clothing, toys, footgear, machinery, headgear, foodstuffs furniture, appliances, sporting goods, dry goods, tools, and plants. The label may be configured to be attached to the product or the product packaging. The label may be attached to the product in a manner to protect the label from damage during shipping. The product packaging may also serve to protect the label. The label may be shipped separately from the product with its own packing and padding.

Consistent with the foregoing objects, and in accordance with the invention as embodied and broadly described herein, a method and apparatus are disclosed in one embodiment of the present invention as including a computer-readable medium, apparatus, and a method for delivering vendor-supplied information to a purchaser, while providing reporting facilitation software and purchaser-provided data as well as internet linking from a purchaser back to a vendor an apparatus made in accordance with one embodiment of the invention may include a computer-readable medium, user interface data or a user interface executable, vendor catalog information, various input templates, multimedia presentations, applications such as tools, utilities, games, desk accessories, or the like.

Various data structures or databases for collecting or maintaining output data or input data serviced by input executables or output executables may stand alone or may integrate with browsers, launchers, viewers, or other applications.

Such applications may be provided as executables on a computer-readable medium product label, or may merely integrate or engage browsers, launchers, viewers, and applications "organic" to a user's computer. That is, executables

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may be provided on a computer-readable medium product label or may merely be accessed by data on a computer-readable medium product label.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects and features of the present invention will become more fully apparent from the following description and appended claims, taken in conjunction with the accompanying drawings. Understanding that these drawings depict only typical embodiments of the invention and are, therefore, not to be considered limiting of its scope, the invention will be described with additional specificity and detail through use of the accompanying drawings in which:

FIG. 1 is a schematic block diagram of computers in a network and internetwork that may implement the apparatus and method in accordance with the invention;

FIG. 2 is one embodiment of a user computer, a server, and a base computer, typically owned, controlled, or accessed by a vendor, for communicating information in response to user or vendor requests;

FIG. 3 is schematic diagram of various alternative configurations of CD-ROM hang-tags or product labels in accordance with the invention;

FIG. 4 is schematic diagram of the information sides of the CD-ROM hang-tags;

FIG. 5 is a schematic illustration of various embodiments of product labeling for presenting CD-ROMs of FIGS. 3-4 including sleeves, substrates, holders, keepers, labels, tethers, and the like, for delivery of CD-ROMs to purchasers as part of product labeling;

FIG. 6 is a schematic block diagram of data structures for selected embodiments of a method and apparatus in accordance with the invention, hosted on a computer of FIGS. 1-2;

FIG. 7 is a schematic block diagram of additional details that may be incorporated in the memory of FIG. 6, or in addition thereto;

FIG. 8 is a schematic block diagram of an interaction scheme including software engines and data repositories for implementing an apparatus and method in accordance with certain embodiments of the invention;

FIG. 9 is a schematic block diagram illustrating the data flows in an apparatus and method in accordance with the invention;

FIG. 10 is a schematic illustration of various embodiments of computer-readable media in product labels in accordance with the invention;

FIG. 11 is a perspective view of an example of a product with attached labels in accordance with the invention;

FIG. 12 is a perspective view of another example of a product with attached labels in accordance with the invention;

FIG. 13 is a perspective view of another example of a product with attached labels in accordance with the invention;

FIG. 14 is a schematic illustration of various types of tethers and locations of attachment suitable for implementing the invention;

FIG. 15 is a perspective view of an example of a product having soft packaging having labels attached in accordance with the invention;

FIG. 16 is a perspective view of and example of a product having hard packaging having labels attached in accordance with the invention;

FIG. 17 is a perspective view and other example of a product having labels positioned partially inside the interior of a product;

FIG. 18 is a schematic block diagram illustrating a manufacturing process for labels in accordance with the invention;

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FIG. 19 is a schematic block diagram illustrating a manufacturing process for blank labels in accordance with the invention; and

FIG. 20 is a schematic block diagram illustrating a process for selecting content for a computer-readable label.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

It will be readily understood that the components of the present invention, as generally described and illustrated in the Figures herein, could be arranged and designed in a wide variety of different configurations. Thus, the following more detailed description of the embodiments of the system and method of the present invention, as represented in FIGS. 1 through 9, is not intended to limit the scope of the invention, as claimed, but is merely representative of the presently preferred embodiments of the invention.

The presently preferred embodiments of the invention will be best understood by reference to the drawings, wherein like parts are designated by like numerals throughout. FIGS. 1-20 illustrate schematic diagrams showing, in considerable detail, certain presently preferred embodiments of apparatus and methods in accordance with the invention. Those of ordinary skill in the art will, of course, appreciate that various modifications to the detailed schematic diagrams may easily be made without departing from the essential characteristics of the invention, as described. Thus, the following description of the Figures is intended only by way of example, and simply illustrates certain presently preferred embodiments of the invention as claimed herein.

Referring now to FIG. 1, an apparatus 10 may implement the invention on one or more nodes 11, (client 11, computer 11) containing a processor 12 or CPU 12. All components may exist in a single node 11 or may exist in multiple nodes 11, 52 remote from one another. The CPU 12 may be operably connected to a memory device 14. A memory device 14 may include one or more devices such as a hard drive or non-volatile storage device 16, a read-only memory 18 (ROM) and a random access (and usually volatile) memory 20 (RAM).

The apparatus 10 may include an input device 22 for receiving inputs from a user or another device. Similarly, an output device 24 may be provided within the node 11, or accessible within the apparatus 10. A network card 26 (interface card) or port 28 may be provided for connecting to outside devices, such as the network 30.

Internally, a bus 32 may operably interconnect the processor 12, memory devices 14, input devices 22, output devices 24, network card 26 and port 28. The bus 32 may be thought of as a data carrier. As such, the bus 32 may be embodied in numerous configurations. Wire, fiber optic line, wireless electromagnetic communications by visible light, infrared, and radio frequencies may likewise be implemented as appropriate for the bus 32 and the network 30.

Input devices 22 may include one or more physical embodiments. For example, a keyboard 34 may be used for interaction with the user, as may a mouse 36. A touch screen 38, a telephone 39, or simply a telephone line 39, may be used for communication with other devices, with a user, or the like. Similarly, a scanner 40 may be used to receive graphical inputs which may or may not be translated to other character formats. The hard drive 41 or other memory device 41 may be used as an input device whether resident within the node 11 or some other node 52 (e.g., 52a, 52b, etc.) on the network 30, or from another network 50.

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Output devices **24** may likewise include one or more physical hardware units. For example, in general, the port **28** may be used to accept inputs and send outputs from the node **11**. Nevertheless, a monitor **42** may provide outputs to a user for feedback during a process, or for assisting two-way communication between the processor **12** and a user. A printer **44** or a hard drive **46** may be used for outputting information as output devices **24**.

In general, a network **30** to which a node **11** connects may, in turn, be connected through a router **48** to another network **50**. In general, two nodes **11**, **52** may be on a network **30**, adjoining networks **30**, **50**, or may be separated by multiple routers **48** and multiple networks **50** as individual nodes **11**, **52** on an internetwork. The individual nodes **52** (e.g. **11**, **52**, **54**) may have various communication capabilities.

In certain embodiments, a minimum of logical capability may be available in any node **52**. Note that any of the individual nodes **11**, **52**, **54** may be referred to, as may all together, as a node **11** or a node **52**. Each may contain a processor **12** with more or less of the other components **14-44**.

A network **30** may include one or more servers **54**. Servers may be used to manage, store, communicate, transfer, access, update, and the like, any practical number of files, databases, or the like for other nodes **52** on a network **30**. Typically, a server **54** may be accessed by all nodes **11**, **52** on a network **30**. Nevertheless, other special functions, including communications, applications, directory services, and the like, may be implemented by an individual server **54** or multiple servers **54**.

In general, a node **11** may need to communicate over a network **30** with a server **54**, a router **48**, or nodes **52**. Similarly, a node **11** may need to communicate over another network (**50**) in an internetwork connection with some remote node **52**. Likewise, individual components **12-46** may need to communicate data with one another. A communication link may exist, in general, between any pair of devices.

Referring now to FIG. 2, a CD-ROM tag **16** may include an aperture **61** for aligning or engaging with a drive **62** for playing the CD-ROM **60**. A Drive **62** in a user workstation **64** may provide linking information or executables facilitating interaction between the user workstation **64** and a server **66**, such as a third party or vendor server, typically maintained by a service provided. For example, the server **66** may be an e-mail server a data service server, a web site server, or other accessible servers.

Meanwhile, a base computer **68** or simply base **68** is typically maintained by a vendor and may be a server, a web site server, a communication server, or may simply be the computer system of a vendor interested in interacting with either a third party server **66** a user workstation **64**, or both. In general, the workstation **64**, the server **66**, and the base **68** may be remote from one another geographically and connected over some type of network **50**. Thus, the input devices **22** and output devices **24** provide interaction by a user at a workstation **64** in order to provide inputs and extract information in response to prompts from software hosted on the CD-ROM **60**. Note that the CD-ROM **60** is not necessarily circular in shape. The CD-ROM **60** need only be properly balanced for spinning and having sufficient space circumscribed by a circle thereon to store the data tracks required for the amount of information provided on the CD-ROM **60**.

Referring now to FIGS. 3-5, a tray **70** may be provided as part of a drive **62** or CD-ROM drive **62**. In general, the tray **70**, as illustrated in FIG. 3 reflects an upper portion **70** of a drive **62**. Thus, the tray **70** may have an alignment rim **71** for orienting the CD-ROM **60**. An alignment of a CD-ROM **60**

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facilitates proper engagement of the CD-ROM **60**. Accordingly clearance cavity **72** may be provided to receive a spin or head of a driver **62** for spinning the CD-ROM **60**. Thus, the tray **70** may be regarded as part of a transport **74** or frame **74** for moving a CD-ROM **60** into and out of the drive **62**.

In general, a CD-ROM **60** may be of any suitable arbitrary, but symmetrical shape. A tether **75** secured through a penetration **76** may secure the CD-ROM tag **60** to a product. As a practical matter, the penetration **76** may be distributed in a balanced fashion to prevent even small variation in the balance on a CD-ROM tag **60**.

A vendor may choose to provide a product, brand, vendor, or other name **78** on a visible face **79** of a CD-ROM tag **60**. In general, the name **78** and other information provided on the visible face **79** of the CD-ROM tag **60** represent vendor identification **80**, in general. Other vendor identification **80** may include slogans **82**, which may themselves be trademarked or registered as trademarks. Messages **84** and other marks **86** or trademarks **86** proprietary to a vendor for ready identification to users (purchasers, consumers) while providing additional impressions on behalf of a vendor.

Typically, logos **88** may be prominent on the visible face **79** of a CD-ROM tag **60**. Likewise, various images **90** or symbols **90** related to either the content of the CD-ROM tag **60**, the product on which the CD-ROM tag **60** is affixed, or related to other aspects of the vendor providing the CD-ROM tag **60** may be provided in any number of colors with suitable graphic appeal.

In general, a shape **92** or an edge **92** may also provide an overall impression of a CD-ROM tag **60**. Any suitable shape that will still work with a drive **62** may be suitable. In certain embodiments, a CD-ROM tag **60** may have vertices **94** or corners **94**. As a practical matter, a CD-ROM tag **60** may be strictly circular or formed in a variety of shapes as illustrated in FIGS. 3-4.

Referring to FIG. 4, a chassis **96** of the drive **62** may mount an arbor **98** adapted to fit the aperture **61** in a CD-ROM tag **60**. A drive **100** may engage a CD-ROM tag **60** for rotation. A cavity **102** or clearance **102** in the chassis **96** provides suitable clearance for rotation of the CD-ROM tag **60** about the arbor **98** through the aperture **61**. The CD-ROM **60** may include system tracks **104** containing information peculiar to the operation of the workstation **64** or the drive **62**. However, the data face **105** may contain content tracks **106** in addition to the system tracks **104**. The content tracks contain substantive data provided by a vendor and targeted to a user. The content tracks **106** need only fit within the particular shape **92** of a CD-ROM tag **60** and are thus typically placed well away from any corners **94** in favor of a continuous central portion of the CD-ROM **60**.

As a practical matter, the penetrations **76** may be provided with tethers **75** for connecting a CD-ROM **60** to various products. For example, in the clothing industry, various types of tethering mechanisms have been developed to facilitate automatic insertion of securement mechanisms with minimum labor and minimum cost. Nevertheless, alternative embodiments may operate independent of the tethers **75**.

Referring to FIG. 5, a sleeve **110** or substrate **112** may mount or otherwise secure a CD-ROM tag **60** to a product. The sleeve **110** or substrate **112** may be secured directly to a package, or tethered thereto by a tether **75** as illustrated in FIGS. 3-5. In one embodiment, a backing **114** may connect to a cover **116** having a seam **117** for securing or bonding **117** the cover **116** to the backing **114**. Thus, a CD-ROM **60** may be inserted between the cover **116** and backing **114** forming a sleeve **110** or envelope **110**. In other embodiments, a pedestal **120** or stub **120** may penetrate the aperture **61** to retain a

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CD-ROM tag. In certain embodiments, a foot **121** of a pedestal **120** may secure the pedestal **120** to a substrate **112** or backing **114**. Similarly, some type of keeper **122** may serve to retain the CD-ROM tag **60** on the pedestal **120**. In selected embodiments, fingers **123** may provide both the pedestal and retention function. In other embodiments, a detent **124** may provide securement or engagement of a CD-ROM tag **60** with a pedestal **120**. Securing the CD-ROM **60** thereto.

In certain embodiments, a lock **126** may engage a catch **128** for securing a keeper **122** into or onto a pedestal **120**. The orientation of the lock **126** and catch **128** as well as the peculiar mechanism for latching them together may be a matter of virtually infinite mechanical engagement techniques.

Referring to FIG. 6, various data structures may be hosted by a workstation **64** before and after loading the CD-ROM tag **60**. In certain select embodiments of an apparatus and method in accordance with the invention, the CD-ROM tag **60** may contain only files **130**. The files **130** may require applications **132** existing completely independently from the CD-ROM tag **60**. As a practical matter, various browsers **146**, launchers **148**, viewers **147**, and the like exist in various distribution channels. Thus, the CD-ROM tag **60** may actually contain only non-executable data requiring other executables (such as applications **132**, browsers **146**, viewers **147**, and watchers **148**, and utilities **138**. etc.).

Referring to FIG. 6, files **130** may be installed in a memory device **14** of the apparatus **10** in accordance with the invention. Typically, the memory device **14** of FIG. 6 may be embodied as the RAM **20** of the workstation **64** of a user. In general, the memory **14** may be loaded with applications **132** of a user, independent of the CD-ROM tag **60**. Likewise, an operating system **134** and files **136** associated with the operating system **134** and application **132** reside in the memory **14**.

Software **140** provided on the CD-ROM tag **60** may include specific executables that are simply run from the CD-ROM tag **60**. Alternatively, software **144** may actually be installed from a CD-ROM tag **60** into a memory device **14** that has non-volatile storage capability, such as a hard drive **16**. Thus, during execution, the memory device **14** is typically the RAM **20** of the workstation **64**, whereas installation and storage typically involves a hard drive **16** at a workstation **64**.

In certain selected embodiments, software **144** may rely on a browser **146** already installed previously and otherwise usable by a user of the workstation **64**. Thus, the browser **146** may be thought of as "organic" to the workstation **64**. That is, the browser **146** is previously installed for other functionality desired by a user. Similarly, a viewer **147** may be an organic application **132** previously installed, but relied upon by the software **140**, **142**, **144**. Similarly, a launcher **148** or loader **148** may operate in a workstation **64**. Similarly, various utilities **138** are typically installed on a workstation **64**. Likewise, various files **136** associated with the applications **132** are hosted thereon. During operation of any particular application **132** the application **132** is loaded into RAM **20**. Similarly, portions or complete files **136** may be loaded into RAM **20**. Otherwise, applications **132** and corresponding files **136** may be stored on a storage device **16** such as a hard drive.

In another embodiment, or additional improvement to previous embodiments, a user interface **150** may be an executable provided by the CD-ROM tag **60**. The user interface may supplant, cooperate with, or substitute for the lack of, a browser **146** or other application **132**, such as a viewer **147**.

A launcher **152** may provide an independent launching mechanism adapted to software **140** provided by the CD-ROM tag **60**. Nevertheless, a launcher **152** may simply exist

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for the user or purchaser who does not have a launcher **148** organic to their workstation **64**.

One particularly valuable product provided by the CD-ROM tag may be a catalog **154**. As a practical matter, the catalog **154** may actually be a multimedia presentation of product information. The catalog **154** may include data, search engines, records, pricing information, visual presentations, audio presentations, user information for sizing or selecting products and the like.

Another important feature that may be provided to a user is input templates **156** for providing information to applications **160** provided. For example, a user may determine to select a rack for holding sporting goods on top of an automobile. Alternatively, a user may select clothing such as hats, shoes etc. Accordingly, input templates **156** may provide user information or request user information inputs which may be used to direct a user's search in a catalog **154** to those particular products that would be suitable for the user in view of the information provided by input templates **156**. Currently, a user must navigate information provided by vendors and suppliers of products and services. By providing certain input templates **156** the quantity of information could be automatically filtered in order to provide to a user only those selections of information that need to be considered. The input templates **156** may provide for storage and maintenance of user inputs over the mere section in which an application **160** or catalog **154** is executing, or may store the information for longer term usage. In certain selected embodiments, the software **140** may actually provide a "concierge" or valet function by maintaining over a long period of time a collection of useful information. Thus, a user need not document catalog purchases, styles, sizes, or the like, but may instead have such information maintained automatically as input by the user directly in response to input templates **156**, or as a result of direct inputs provided by a CD-ROM tag associated with a particular product purchased by a user.

In certain embodiments, included with any catalog **154**, or independent therefrom, a multimedia presentation **158** may present information to a user. The multimedia presentation **158** may be configured as entertainment to engage a user. Alternatively, the presentation **158** may be a portion of a catalog **154**. In certain embodiments, the multimedia presentation **158** may take the form of qualification testing, or the like. Any presentation **158** that may engage a user, may also collect information, if desired. Thus, sophisticated profiling may result from responses of a user to a multimedia presentation **158**.

In general, applications for any particular function desired by a vendor may be provided as part of the software **140** of the CD-ROM tag **60**.

Advertising specialties are typically engaging or useful products that bear the name, identifying information, location, and so forth of a vendor. Thus, various utilities and tools that may have particular application to a user for managing computer systems, managing information, and the like may be provided as tools **162** or utilities **162** in a software package **140**. As a practical matter, the advertising industry is much larger than the software industry. Accordingly, a vendor may well decide to provide various software tools **162** or utilities **162** at no charge, in order to provide more access of impressions from the vendor to a user on the user's workstation **11**, **64**.

Another feature that is often regarded as highly desirable by a user is games **164**. Games **164** that use national trademarks, well-recognized characters, or game schemes, or the like may be provided in the game **164**. Again, the games **164**

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may themselves include multimedia presentations **158** and may provide direct or indirect input templates **156**.

Other software **156** may be provided for any of a host of purposes that may be desirable by a vendor or a user. Other software **166** may include, for example, tests, skill evaluations, any interactive exchange of information, or the like that may be useful to the user or the vendor. The results of such other software **166** may be stored for only a session or may be stored for some period of time for use at a later time by either a vendor or a user, in accordance with authorizations by each or either one.

Output data **168** and input data **169** may be viewed from the point of view of the CD-ROM tag **60**, a user, or a vendor. Regardless, various inputs or various applications **160**, presentations **158**, including the catalog **154**, and so forth, may be independent of the application **160** or executables. Thus, the outputs **168** and inputs **169** may be perceived to contain data used by the executables of the software package **140**, as well as information that may be provided to a user. Also, the output data **168** and input data **169** may include data in addition to the data provided by the CD-ROM tag **60**. For example, certain of the data **168**, **169** may be those items of information provided in response to the input templates **156**, which information may be provided, at the user's discretion back to vendors for the purpose of purchasing, selecting, reporting, registering, or the like, products or purchases.

In certain embodiments, software **142** may actually be installable on a non-volatile storage device **16** of a workstation **11**, **64** of a user. Thus, an installer **170** may actually be provided on the CD-ROM **60** or independently therefrom.

Output executables **172** may provide data from a user back to a vendor. Meanwhile, input executables **174** may provide for collection of information from a user. Part of the user input executables **174** may actually be pre-programmed data provided by a vendor in association with a CD-ROM tag **60**. Accordingly, the input executable **174** may actually report input data **178** already on a CD-ROM tag, identifying product purchases. However, the most useful input data **178** to a vendor may be the product information available on a CD-ROM **60** in association with inputs from a user regarding personal preferences and purchasing patterns. Again, the relationship between input data **178** and output data **176** may be considered with respect to a user, or with respect to the executables **172**, **174** or may be considered with respect to a vendor or with respect to a user workstation **11**, **64**. Thus, one need not be locked into any one frame of reference. Nevertheless, the inputs **178**, and outputs **176**, in general will provide information for transfer to and from executables **172**, **174** hosted on a user workstation **11**, **64**, and may provide information back to a vendor base computer **68**. A significant benefit of a CD-ROM tag **60** is to provide for the needs of a user and the needs of a vendor in exchanging information. Accordingly, a vendor more easily satisfies the needs of a user or a purchaser by virtue of the available data **176**, **178**, while a user can selectively authorize transmission of various data **174**, **176** to and from a vendor base **68** or even an independent third party server **66** according to only those authorizations selected by a user.

Thus, in one embodiment, the software **140**, **142**, **144** may represent alternative mechanisms for collecting information and storing the same for the user. Similarly, the information may selectively, at a user's discretion, be transmitted from the user workstation **11**, **64** to a vendor base **68** at a point of purchase or a time of purchase. Most users are happy to provide necessary information to size or otherwise select purchases. Information provided to a vendor may then be discreetly used by the vendor in order to better capture demo-

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graphic information correlating products, advertising campaigns, sales, and the like, together.

Referring now to FIG. 7, additional and alternative details of embodiments in accordance with an apparatus and method of the invention may include executables **180**, operational data **182** (non-executables) and organic data **184**. The term "organic" as used herein reflects the military concept of installed systems that are part and parcel of a particular organization or operation. In this instance, the organic data structures **184** reflect those software and file structures that are installed or inherent on a user workstation **11**, **64** independent of the CD-ROM tag **60**. Nevertheless, the organic data structures **184** may be executable in order to access or use operational data **182** provided by the CD-ROM tag **60**.

Typically, a memory device **14** of a user workstation includes various utilities **186** for performing the necessary functions or desirable activities associated with the "care and feeding" of the user workstation **11**, **64**. Typically various applications **188** provide functional abilities for a user. For example, Internet access, browsers, text editors, painting and drawing programs, word processing, financial programs, and the like are various applications **188** hosted by a user workstation **11**, **64**. Likewise, games, e-mail, and other applications **188** or programs **188** are becoming ubiquitous by public domain software, shareware, commercial software, and the like.

The applications **188** operate "on top of" an operating system **190**. Of course, the utilities **186** may operate with applications **188**, or may operate as applications themselves on the operating system **190**.

Many workstations **11**, **64**, and sometimes operating systems **190** themselves, include launchers **192** for launching applications **188**. Browsers **194** are ubiquitous. A selected few browsers are nearly universally installed. Thus, a browser **194** organic to a workstation **11**, **64** may actually be presumed to be one of a very few types. Thus, the CD-ROM tag **60** need not include a browser **194**, since a browser **194** may be presumed to be installed, so long as the selected few browsers are supported.

Database managers **196** likewise are of several types. To the extent that a database manager **196** already exists, a user may elect not to use or may not need any type of a storage and retrieval engine other than a database manager **196** organic to the workstation **10**, **16**. Search engines **198** may be embodied in database managers **196** or browsers **194**. Alternatively, other search engines may also exist as a result of various needs or applications available to a user. Likewise, certain search engines **198** are available over the Internet and need only be accessed by internet client software.

Viewers **200** or players **200** are again ubiquitous. The names are well known and the multimedia presentations players **200** are well documented. Any one of such viewers **200** or players **200** may exist as an organic software article on a workstation **11**, **64**. Editors **202** or at the higher end, word processors **202** are likewise ubiquitous and well documented, while being limited to only a few major players. E-mail engines **204** exist as does other software **206**. Accordingly, a user may document, or the operating system **190** may provide, an identification of the typical organic software suite **192**, **206**. To the extent that a user wants to be spared the tedium, the executables **180** may themselves determine the organic software suite **192-206**, thus obviating the need to install specialty executables unique to the CD-ROM **60**. Nevertheless, executables **180** may be provided in order to deliver to a user the full content of a CD-ROM tag **60**, without requiring any particular software suite **184**.

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Associated with the software **192-206** may be various data files **210** taking the form of documents **212** records **214** or other files **216**. Again, the storage format of the data files **210** will depend upon the software creating them. The executables **180** and operational data **182** may conform to the data files **210**.

In certain embodiments a CD-ROM tag **60** may include only operational data **182** and no executables **180**. Typically, an operating system **190** with various utilities **186** can protect against viruses. Nevertheless, some reluctance to load executables **180** may be avoided by providing only operational data **182** on a CD-ROM tag **60**, to be executed by the organic software **184** of a user's individual workstation **11, 64**. Nevertheless, since a CD-ROM tag **60** comes from a responsible supplier, and is in a format not available for tampering, the executables **180** may be loaded with confidence.

Nevertheless, for saving space on a CD-ROM tag **60**, operational data **182** may consume considerably less space than certain executables **180**. Nevertheless, again, when discussing audio data or visual data, particularly animated data, the operational data **182** may grow to substantial size.

In certain embodiments, application data **218** may include user preferences or user settings **220**. Most applications provide for such information tailored to a user's needs.

Again, the operational data **182** may correspond to the organic software **184**, or the new executables **180** installed as a result of the CD-ROM tag **60**. Applications **188** may have their own individualized data peculiar, not to a user, but to the application **188**. Accordingly, application set up data **222** or setups **222** may be provided as temporary or permanent configuration data controlling the use and access to applications **188**. Of course, the operational data **182** may all be applicable to the executables **180**, as well. Application files **224** may be required data, or it may be the stored files **224** resulting from execution of an application **188, 180**.

Certain graphical user interface data **226** or icon data **226** supports ready access by a user to applications **188, 180**. Entertainment files providing images, operational data, scenarios, conditions, and the like for various gaming applications or other entertainment executables **265, 188** may be a major portion of the operational data **182** provided in a CD-ROM tag **60**. For example, new game scenarios, music, sound bites, presentations, video animations, and the like may form a substantial entertainment file **228** of interest to a user, and useful by an executable **180, 188** of a user workstation **11, 64**.

In certain embodiments, operational data **182** may be embodied in an object **230** or various objects **230**. Objects **230** may include strictly attributes **232** or may include sufficient executables **234** embedded in the object **230** in order to provide access by a user to the attributes **232**.

An audiovisual or multimedia catalog content **236** may execute with an application **184** or an executable **180** such as a catalog presentation **270**. Again, catalog content **236** may be a major benefit to a vendor as well as a desirable benefit to a user. Moreover, if the catalog content **236** may be filtered according to user preferences, and presented in a dynamic and engaging format, the catalog content **236** may have great commercial value to a vendor and to a user in providing targeted messages to a desiring audience.

One major benefit to CD-ROM tag **60** may be the facilitation of registration data **240** or response data **240** from a user back to a vendor. The data **240** may be provided from a user workstation **11, 64** to a base computer **68** of a vendor, or to a centralized server **66**. In certain embodiments, a user may have few qualms about providing information from a workstation **11, 64** to a base **68** over an internetwork **50**, knowing that the base **68** is controlled and owned by a specific vendor

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under an agreement with the user not to provide user data elsewhere. Alternatively, in certain embodiments, a base **68** or a user **64** may provide to a third party server **66** certain information. However, user response data **240** may be protected to any extent desired by a user and a vendor. Accordingly, a vendor may obtain valuable and specific targeting data so long as the vendor agrees to maintain such data in confidence. For example, a user may desire repeatedly to purchase certain selected brands of clothing. The user may likewise have no qualms about providing sizing data, purchases, style information, and the like to a vendor. However, many users might have a great objection to having such information generally available to random purchasers of targeting information. Accordingly, the registration data **240** or response data **240** may provide user options for the generalized availability of personal data.

The data **240** may include vendor data **242** taken directly from the CD-ROM tag **60** or provided by a user. Vendor data **242** may be selected by a vendor and embedded on the CD-ROM tag **60**.

A data packaging module **244** may contain information such as authorizations **246** permitted by a user. Likewise, any questions or templates that fill out database records for a vendor may be contained in the template content **248**. The data packaging module **244** may thus provide personal information in the template content **248**, bound to certain selected and limited authorizations **246**. The authorizations **246** may have the effect of filtering the availability of the template content **248** to a vendor or various vendors. Thus, the authorizations **246** may provide to a user great comfort and great control over the distribution of targeting information.

User profile response data **250** may be provided directly or indirectly from a user workstation **11, 64**. In general, the user response data or the profile data **250** represents information of value to the vendor, and only available from a user.

Product response data **252** or purchase response data **252** may be provided by a user, by the CD-ROM tag **60** itself, or both. Depending on a user's willingness to respond to questions, certain product data **252** may be provided. However, since a vendor controls the manufacture of the CD-ROM a vendor can place information in as much detail as desired on a CD-ROM tag **60**. Thus, a CD-ROM may simply be a generalized CD-ROM tag **60** associated with a vendor. Alternatively, a CD-ROM may be produced in versions which are specific to a style, color, stock number, sales distribution outlet identification, or the like. Just as labeling on products may be specific to a style, color, and the like, a CD-ROM tag **60** may be so specific. Alternatively, a vendor may produce CD-ROM tags **60** having certain product data **252**, and providing rapid template inputs or selections of other details. For example, a style may be indicated by the data **252** provided directly to the CD-ROM. Other response data **252** may involve user selection of color, size, or the like. Thus, the CD-ROM tag **60** contains the style information and vendor information and perhaps certain distribution information, whereas the response data **252** provided by a user directly may include color, size, and additional purchase point information.

Linking data **254** may be inside linking data **255** or outside linking data **256**. Inside linking data **255** may be thought of as binding information linking, for example, products and purchase response data **252** with user profile and user response data **250**. Inside linking data **255** may include authorizations **246** linking to selected content **248** obtained from templates. Thus, the inside linking data **255** may be quite specific, and quite controlled. By contrast, the outside linking data **256** may provide information necessary to link as seamlessly as

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possible the user workstation 11, 64 to a vendor base 68 or third party server 66. Thus, for example, the outside linking data 256 may provide addresses and sets of information for ready engagement of a browser 194 or viewer 200, or even e-mail 204. The CD-ROM tag 60 may facilitate a very rapid, user-friendly, and transparent link back to a vendor.

To the extent that a user station 11, 64 does not contain a specific, required article of organic software 184, an executable 180 may be provided for the function. As a practical matter, a launcher 258 may not be necessary if launchers 192 are organic. Launchers 192 are often embedded in operating systems 190.

Nevertheless, to the extent that they are not available as organic software 184, a browser 259, a viewer 260, and e-mail program 261, a fax sending or receiving program 262, a player 263 for audio, video, or other data, or a broker 264 for accessing any of the applications 258-263 or any of the applications 192-206 may be provided on the CD-ROM tag 60. The functionality of each of these applications 192-206 and applications 258-263 are clear from their names or titles.

A broker 264 may be thought of as a user interface for selecting and engaging a particular executable 258-263 or application 192-206 on behalf of a user. Thus, a broker 264 may effectively navigate between various applications or executables seamlessly, with a minimum of interruption and input by a user.

Entertainment 265 may be a major draw for certain classes of users. Accordingly, proprietary, novel, or licensed entertainment 265 may take the form of music, videos, demonstrations, education, games, skill tests, and the like. Entertainment 265 may be interactive to provide user information.

An installer 266 may or may not be required depending on the particular nature of executables 258-265. Again, an installer 266 may be obviated by the presence of an installer 266 in association with the organic software 184 when purchased. Alternatively, to the extent that an installer 266 is necessary to install or uninstall executables 180, the installer 266 may be provided on the CD-ROM tag 60. Since so many applications share libraries, the installer 266 may be necessary in order to obtain the security and the access needed for proper set up of a user workstation 11, 64.

As discussed above, executables 180 may take the form of objects 267, wherein sufficient attributes 268 to operate certain executables 269 are provided within the object 267. Alternatively, the attributes 268 may be significant and a result of user inputs to access the executables 269. Thus, the comparative size and significance of the attributes 268 and executables 269 need not be prejudiced in favor of either one.

A catalog presentation 270 is an executable 180 for presenting a catalog. The catalog presentation 270 may have data contained therein, but may preferably be only the executable 180 with the content 236 exchangeable. Thus, a single catalog presentation executable 270 may be provided on a single CD-ROM tag 60. Later on, additional CD-ROMs may change content 236 or add content 236 that may still be accessed by the single original catalog presentation executable 270.

Similarly, templates 271 may provide input formats, questionnaires, record styles, and the like. Templates 271 may be animated to be more engaging. The templates 271 may be nested series of numerous question fields that are automatically filtered according to previous answers. Accordingly, the templates 271 may be quite sophisticated. However, as with the catalog presentation 270, the templates 271 may benefit from having the executables 271 separate from the vendor date 242, data packaging information 244, user profile date 250, or product data 252 separately stored.

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The registration engine 272 may represent the executable portion 272 designed to provide the registration response date 240. For example, the authorization module 273 may provide the questions, explanations, and controls, or may use the information provided for, the authorization 246. Thus, the authorization module 273 may be thought of as the executable 273 responsible for generating, using, or both, the authorization data 246. Similarly, an I-O module 274 may provide the connection mechanism for using the linking data 254 in order to input or output data generated by the registration engine 272.

A profile builder 276 may be simple or sophisticated. The profile builder 276 may be thought of as executable 180 responsible for providing user profile data 250. Profile builder 276 may also provide linking between user profile and response data 250 and the product of purchase response data 252. Thus, the profile builder 276 may provide data 250, 252 as well as linking data 254.

An inference engine 277 may be hosted in a user workstation 11, 64 or may be hosted in the base 68 to be operated on the base CPU 12, or may be hosted in the CPU 12 of a server 66. In general, the inference engine 277 may actually be a rather sophisticated and complex software module 277. Accordingly, the inference engine 277 is typically a portion of a vendor's analysis tools. Linkers 280 may be incorporated within the profile builder or registration engine, but may also be outside. As a practical matter, linkers 280 may be associated with a broker 264. That is, in general, the linking data 254 is created to be used. Some engine must use the linking data in order to make the links between operational data 182, or between a user workstation 11, 64 and a vendor base 68 or server 66. Thus, the linkers 280 may be embodied within the broker 264, or may be accessed by the broker 264. In certain embodiments a browser 259 may obviate the need for a broker 264 or linkers 280. On the other hand, the engines that form and manage the links back to a vendor, may be provided by the linkers 280. Other executables 278 may serve additional functions requested by a user or a vendor.

Referring to FIG. 8, a collection 282 of CD-ROMs 60 may actually involve the electronic series 283 or indices 284 of the content of multiple CD-ROM tags 60. For example, CD-ROMs 60 may contain substantial amounts of information that a user does not desire, in general, to store on a storage device 16 in a user station 11, 64. Accordingly, the collection 283 or the index 284 may simply be responsible to provide sufficient linking information to readily access information on CD-ROMs 60. Alternatively, certain specific information may be stored in the collection 282, with the more massive information on CD-ROMs 60. In certain embodiments, the CD-ROMs 60 may be dispensed with and the indices 284 may provide links back to a web site 68 or base 68 from which updated information from executables 180 or operational data 182 may be downloaded to a user on demand. Thus, the CD-ROM may contain the initial information and setup involved, while the actual content (e.g. operational data 182) may be updated and downloaded automatically or in response to user requests.

Interactions illustrated in FIG. 8 between the user workstation 64 and the base 68 or other server 66 need not go outside the browser 259, viewer 260, player 263, or search engine 285. That is, the collection 282 may be accessed from within the single computer 64, without access to an internet-work 50 to contact the base 68 or server 66. An actual index 284 of the content of the collection 282 may be provided and searched by the indexing and search engine 285. The indexing and searching engine 285 may be thought of as the database engine maintaining a database 284 of index information

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related to the content of the collection **282**. Access to the collection **282** may be obtained by one or more of the browser **259**, **260** engine **285**, and player **263**, or other access software **292**. In certain embodiments, e-mail **261** may be used to access the information **282** and forward it to another location. Typically, a browser **259** or e-mail **261** may have immediate access over an internetwork **50** to other servers **66**, **68**.

An optional local broker **286** may navigate between the available applications **180** or executables **180** including the browser **259** e-mail **261**, and the like. However, the local broker **286** is strictly optional. For example, a browser **259** or Internet browser **259** may access the collection **282** and provide date back to the server **66** or the base **68** and vice-versa. Nevertheless, a broker **286** may be configured as described above in the broker **264** of FIG. 7. The broker **286** has a function of integrating, if desired, and providing a user interface that does not demand of a user continual switching between, or worse, launching and exiting, various application software. As illustrated in FIG. 8, the user workstation **64** may provide or acquire information from the central database server **289** by means of a central interface broker **288**. That is, the central interface broker **288** may cooperate with the local broker **286**, or in the absence of a local broker **286** may cooperate directly with a viewer **260** or browser **259**. Alternatively, a user may access directly a private database server **291** in the base **68**, with or without a private interface broker **290**. The purpose of the brokers **288**, **290** may be designed by a vendor or a third party. However, in order to facilitate ease of access to servers **66**, or the actual data stores **289** and server **68**, including the actual data stored **291**, information must be transported in a format recognizable and useful by a controlling executable. Since an individual user may have a workstation **64** having a viewer **260**, a viewer may be the only mechanism available to access the collection **282** of CD-ROM tag information, and update it. Alternatively, some internet browsers **259** may be available. In some instances, only e-mail **261** is available. Likewise, only some database management engine **285** or some particular player **263**, such as a multimedia player, or the like, may be available. Accordingly, the availability of brokers **286**, **288**, **290** may be optional. However, the brokers basically can facilitate interaction by repackaging information according to different protocols in certain instances. Thus, the brokers **286**, **288**, **290** may all be optional. However, a third party controlling the server **66** may desire to have a central interface broker **288** in order to accommodate more information in more formats for more sources. Likewise, a vendor of products, by controlling the base **68** or base server **68** may desire to have a private interface broker **290** in order to facilitate access to information and receipt of information in a variety of formats.

Effectively, in the system of FIG. 8, operating with the hardware and software configurations of FIGS. 1-7, may exchange information between a central third party controlling a server **66**, a vendor controlling a server **68**, and a user controlling a workstation **64**.

The database stores **289**, **291** may contain information obtained from user workstations **64** with user authorizations. Accordingly, the users may request by pulling information and vendors may push by providing, according to user authorization, data from the data stores **289**, **291**. Thus, a free flow of targeted product information to user workstations **64** filtered according to user desires and profiles is facilitated.

Referring to FIG. 9, an apparatus and method in accordance with the invention may be implemented by a system **293** or method **293**. In one embodiment, a vendor **294** controlling a base **68** or base server **68** may provide **295** the information required by a CD-ROM provider **296** in order for

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the CD-ROM provider **296** to construct the operational data **182** and executables **180** of FIG. 7. As a result, the CD-ROM provider **296** delivers **297** or provides **297** a design **298** for the CD-ROM hang-tag **60**. The design **298** may include both graphic design and software architecture as well as data structure architecture for the operational data. The CD-ROMs **60** are then provided **299**.

Meanwhile, a vendor **294** provides **302** product **300** to be associated with the CD-ROM tags **60**. The CD-ROM tags **60** may be attached to the product **300** by any suitable means, including tethering, adhesives, packaging, and the like. Thus, the CD-ROM tag **60** is associated with the product **300** for delivery **304** to a user **306**. The user **306** separates the CD-ROM tag **60** from the product **300** and installs **308** the CD-ROM tag **60** on the workstation **64**.

As described with respect to FIGS. 1-8, the workstation **64** may then establish links **310** with the server **66** which may include engines, servers, databases, and the like as described above. Similarly, the workstation **64** may establish links **310** with the base **68** or base server **68** associated with the vendor **294**. Accordingly, the workstation **64** may obtain data from the servers **66**, **68**, and deliver data to the databases of the servers **66**, **68**.

Referring now to FIG. 10 another embodiment of the invention is presented as a user-computer-readable medium imbedded in a product label **410** (herein the label). The label **410** may be configured to be a hang tag as the term is used in the clothing and retail industries, any hanging tag configured to be attached to a product using a tether **75**, or any tag configured to be attached to a product in any other manner.

Penetrations **76** may be provided with tethers **75** for connecting a label **410** to various products. For example, in the clothing industry, various types of tethering mechanisms have been developed to facilitate automatic insertion of securement mechanisms with minimum labor and minimum cost. Nevertheless, alternative embodiments may operate independent of the tethers **75**.

Referring to FIG. 10 while continuing to refer generally to FIGS. 3-5, the label **410** maybe substituted for CD-ROM tag **60**. Accordingly the label **60**, **410** is formed to display on an outer surface **434** information **484**. The information **484** may include facts about the product and facts about the source of the product. Information **484** may be conveyed directly through the use of printed words, symbols, trade marks, service marks, pictures, and the like. The information **484** may also be conveyed through the selection of the color or shape of the label **410**. The information **484** may include a product name, brand name, vendor name, or other name **78**, vendor identification **80**, slogans **82**, messages **84**, other marks **86** or trademarks **86**, logos **88**, and images **90** or symbols **90**.

In general, a shape **92** or an edge **92** may also provide the information **484**. Any shape that will still function with a drive **62** may be suitable. In certain embodiments, a label **60**, **410** may have vertices **94** or corners **94**. As a practical matter, a label **60**, **410** may be the standard shape for the particular medium or formed in a variety of shapes as illustrated in FIGS. 3-4 and 10.

A computer-readable medium product label **410** may be substituted for the CD-ROM tag **60**. Accordingly, if an optical medium, such as CD-ROM **460**, or DVD **468**, is selected, the label **60** may be of any suitable arbitrary weight-balanced configuration. For other types of media such as a floppy disk **470**, an industry-standard size, shape, or both may be dictated. A tether **75**, secured through a penetration **76**, may secure the label **60** to a product. As a practical matter, penetrations **76** may be distributed in a balanced fashion to pre-

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vent even small variations in the balance on a label **60**, **410**, particularly if the label **410** is a CD-Rim **460** or a DVD **468**.

In one embodiment, the choice of a computer-readable medium may include an optical medium such as a DVD **468** or CD-ROM **460**. In other embodiments, the computer-readable medium may include a magnetic medium such as magnetic strip **464** or floppy disk **470**. In other embodiments, the computer-readable medium may be a symbolic code such as a bar code **462**. In yet other embodiments, the choice of a computer-readable medium may include firmware **366** such as a card with an embedded chip.

The computer-readable medium couples to the tag **410** other information **486** in a computer-readable format. The information **486** of the label **410** may be configured, selected, and operable the same as the various software **140**, **142**, and **144** corresponding to the CD-Rom hang tag **60** in FIG. 6. The information **486** may also correspond to the executables and operational data **182** of the CD-Rom hang tag **60**. Accordingly, the information **486** may include product facts, source facts, new product facts, service facts, a game, a data gathering interface, a test, a browser, a launcher, or the like and a network identifier (e.g. address, URL) corresponding to a location where additional information may be available.

Referring again to FIGS. 8-9, the collection **282** of media tags **60** may also be a collection **282** of labels **410**, each capable of all the uses and functionality thereof. The process system **293** or method **293** may apply to labels **410** as well as to media tags **60**. A computer-readable medium embodied in product a label **410** may perform as a CD-Rom tag **60** or other media tag **60**.

Referring to FIG. 11, a product **412** is illustrated with labels **410** attached at various locations. In the illustrated embodiment, the product **412** is a garment **414**. Many currently available computer-readable media are fragile and require some degree of padding or other protection during shipping. For this purpose, the garment **414** is a suitable product **412** to be packaged in conjunction with the label **410**. The garment **414** may be made of soft, cushioning fabric that will protect the label **410** during packaging, handling, shipping, and display of the product **412** prior to purchase by a consumer.

The garment **414** has an associated exterior **418** and an interior **420**. Depending on the type of garment **414**, other features of the garment **414** may include an attached tag **416**, a button **422**, a button hole **424**, a pocket **426**, a sleeve **428**, a cuff **430**, and the like. A tether **75** may attach the label **410** to the garment **414** at any of the previously mentioned features or at other locations where ever labels may be serviceably attached by manufactures and retailers.

Referring now to FIG. 12, another embodiment of a product **412**, may be a toy **440**. A toy **440** may be a stuffed animal **440** as shown or any other type of toy **440**. A stuffed toy **440** may provide the same beneficial padding and protection for the label **410** as the garment **414**.

A toy **440** may have one or more features significant for tagging, such as, for example, an appendage **442**, an ear **444**, an exterior surface **418**, an arm **446**, an attached fabric tag **416**, or the like for receiving the label **410**. The label **410** may be attached to the toy **440** by a tether **75** secured at any of these or other accessible features.

Referring now to FIG. 13, a type of footwear **450** is illustrated as one embodiment of a product **412**. An eyelet **452**, a lace **454**, an exterior surface **418**, an interior **420**, and other features of a footwear **450** may be accessible. A tether **75** may attach the label **410** to the footwear **450** at these or other features without damaging the footwear **450**. Because footwear **450** may be somewhat soft in some locations and is frequently shipped and sold in boxes and other hard packag-

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ing, footwear **450** is another ideal product **412** for use with a label **410**. The packaging of the footwear **450** may tend to prevent the label **410** from being damaged prior to purchase of the product **412** by a consumer.

The label **410**, usable as illustrated and described in conjunction with a garment **414**, a toy **440**, and a footwear **450**, may rely on of the ability of these products to provide the needed padding and protection of the label **410** prior to purchase by a consumer. However, it will be appreciated by those of skill in the art that the label **410** may be configured to function in conjunction with other products **412** that may require additional measures to insure that the label **410** is delivered to a consumer without damage. These other products may include headgear, foodstuffs, furniture, materials, equipment, appliances, sporting goods, dry goods, tools, machinery, plants, and the like. With such products, labels **410** may be packaged, shipped, or both independently from the product, and attached at the site of retail display. Labels **410** may be shipped with sufficient padding or other suitable packaging structures to protect from heat, bending, breakage, warping, weather, impact, magnetic fields, or the like.

Referring to FIG. 14, different types of tethers **75** may be employed. In one illustrated embodiment, a string tether **472** may be matched with a product **412** having a button hole **472**. The label **410** may be attached to the string **472** through a penetration **76**. The string may be looped or tied to create a double strand of string **472**. The double stranded string **472** may passed through the button hole **472**. The label **410** may pass back through the resulting loop forming a knot **474** securing the label **410** to the product **412**. A knot **474** may attach a string tether **472** to a button **422** by a wrapping of double stranded string around the base of the button **422** and passing the attached label through the resulting loop.

In alternative embodiments, a pin **478** may be used to attach the string tether **472** to the product **412**. The pin **478** may be attached to the product **412** by inserting the pin **478** through the outer surface **432** of the product **412**. The string **472** may be tied to the pin using a square knot **482** or another knot **482**.

Additionally, a stop **480** may be attached to the string **472** and passed through a button hole **424**. The stop **480** may be made by attaching an end of a string to a crossbar, such as an elongated, thin piece of plastic, metal, wood, or the like. The length of the stop **480** tends to position itself across the button hole **424**. Thus, the stop **480** may easily enter the button hole **424** when inserted end-first but will only exit the button hole **424** when carefully oriented by a user in the same manner.

With most of the disclosed methods of attachment, the string **472** may actually be made of any suitable, functional material. For example suitable materials may include plastic, cotton, paper, nylon, hemp, or other natural or manmade stranded materials.

In another embodiment tether a **75** may be a T-tether **476** made of a thin, flexible piece of plastic with a rigid stop (crossbar or "T") at each end. The T-tether **476** may be attached to product **412** through the conventional, attached product or material label **416** or through a surface **432** of the product **412**.

Referring to FIG. 5, a user-computer-readable label **410** may be substituted for a CD-ROM tag **60**. A sleeve **110** or substrate **112** may mount or otherwise secure a label **410/60** to a product **412**. The sleeve **110** or substrate **112** may be secured directly to a package, or tethered thereto by a tether **75** by any suitable method, such as those illustrated in FIGS. 3-5. In one embodiment, a backing **114** may connect to a cover **116** having a seam **117** for securing or bonding **117** the

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cover 116 to the backing 114. A label 410, 60 may be inserted between the cover 116 and backing 114 forming a sleeve 110 or envelope 110.

In other embodiments, a pedestal 120 or stub 120 may penetrate the aperture 61 to retain a label 410, 60. In certain embodiments, a foot 121 of a pedestal 120 may secure the pedestal 120 to a substrate 112 or backing 114. A keeper 122 may serve to retain the label 410, 60 on the pedestal 120. In selected embodiments, fingers 123 may provide both a pedestal and retention function. In other embodiments, a detent 124 may secure or engage a label 410, 60 with a pedestal 120.

In certain embodiments, a lock 126 may engage a catch 128 for securing a keeper 122 in or on a pedestal 120. The mechanism for latching the lock 126 catch 128 may be selected from a virtually infinite number mechanical engagements.

Referring now to FIGS. 15 and 16, a packaged product 490 may be a product 412 surrounded by packaging 492. In one embodiment, the packaging 492 may be soft packaging 494. Soft packaging 494 may comprise any suitable envelope, a bag, or other covering made of plastic, paper, cloth, or other flexible or flaccid material.

In another embodiment, the packaging 492 may be hard packaging 496. Hard packaging 496 may be a box, case, frame, or the like and may be made of paper, cardboard, wood, metal, or other comparatively stiff and strong structural material.

A label 410 may be attached to a packaged product 490 by securement to an unpackaged product 412 later inserted into the packaging 492. For example, in the embodiment illustrated in FIG. 15, the label 410 is attached by a string tether 472 to a button 422 and then inserted into a pocket 426.

The label 410 may also be attached directly to the packaging 492 by a tether 75 by any of the previously discussed methods and structures or another more suitable. In the embodiment of FIG. 15, the tether 75 is attached to the packaging 492 by a fastener. The fastener 498 may be a staple, a sticker, a pin, a T-tether, a rivet, glue, or the like. If the fastener 498 has a significant surface area, as, for example a sticker, the fastener may have printed on a face or otherwise convey fastener a message 500. The fastener message 500 may correspond to information 484.

A label 410 may also be attached by an adhesive 502 directly to a surface 493 of the packaging 492 or the product 412. The adhesive 502 may securely hold the label 410 to the packaging 492, yet be readily removable from the label 410.

Referring now to FIG. 17, a product 412 may have an exterior 418 and an interior 420. The label 410 may be attached to the product 412 to be positioned at least partially in the interior of the product. The label 410 may be secured by a tether 75 and penetration 76 in the attached product or materials label 416 to position the label 410 in the interior 420 of the garment 414. The label 410 may also be secured to a button 422 a tether 75. The label 410 may be placed in a pocket 426, one interior region 420 of the product 412.

Referring to FIG. 18, one schematic block diagram illustrates a process of label manufacture 510. Initial manufacture 512 of blank computer-readable media may precede the selection 514 of the computer-readable content to be stored in computer-readable medium. Writing 516 the content to the computer-readable medium may be followed by quality control 518 process.

Referring now to FIG. 19, blank manufacture 512 may begin with selection 520 of the type of computer-readable medium to be relied upon. In the illustrated embodiment, a user may, for example, select from an optical medium 522, symbolic medium 524, magnetic medium 526, firmware medium 528, or the like.

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The selection 520 of the type of medium may depend on a number of factors including for example medium availability, storage capacity, storage density, durability, cost of production, and availability of medium readers among target consumers. In one embodiment, optical media such as a CD-ROM 460 or DVD 468 may be selected. The optical media are readily available, have a large storage capacity, are durable, are inexpensive, enjoy wide use among consumers. Other types of media such as symbolic media and firmware media do not enjoy wide distribution of readers among consumers but may grow in popularity as the installed base of reading devices grows.

If an optical medium is selected, manufacture 510 may require the selection of a resin 530, selection of a shape 532, formation 534 of substrates, information selection 536, imprinting of the label 538, and quality control 540. Resin selection 530 may be made from among the types of resin known in the art. Shape selection 532 may accommodate several variables. For example, for an optical medium, current technology dictates a symmetrical balanced shape to spin evenly. Addition of precisely placed ballast may be used in certain embodiments. The shape may be selected to convey the information 484. For example, if a manufacturer of a product 412 has a readily recognizable shape in its trademark, the shape may be selected as the shape of the optical medium.

Once a resin selection 530 and shape selection 532 is complete, the formation of the substrate 534 may occur. Selection 536 of the information 484 to be printed on the label 410 may involve consideration of the type of information to be conveyed by the label 410 and the manner in which it is to be conveyed. Information 484 may be conveyed through the shape of the medium. Likewise color of a medium or the color printed on the medium may convey information 484.

Pictures and graphics may be printed on or adhered to the medium in a manner to convey information 484. Words may be printed on or adhered to the label 410 in order to convey information 484. Once the selection 536 of the information 484 is complete, the information 538 may be imprinted 484 onto the label 410. Thereafter it may be useful to have a system available for sampling and verifying the quality of the produced blank labels 410.

If a type of medium other than an optical medium 522 is selected, additional steps may be relied upon. For example, if a symbolic code medium 524 is selected, the selection of the material 542 on which the code is to be imprinted may be necessary. Selected materials 542 may include paper, cardboard, fabric, plastic, and the like. The material selected 542 may depend on the type of reader available.

The symbolic code 543 itself may include dots, images, bar codes, or the like. The process of manufacture may be the analogous to those for the optical medium commencing with selection of shape 532.

If a magnetic medium 526 is selected, an additional step of type selection may be warranted. Currently, several configurations of magnetic media are available, including floppy disks, zip disks, magnetic strips, magnetic tape, and so forth. Size and storage considerations may favor any one of these types of magnetic media over another. In certain applications. However, wherever technology provides a certain standard configuration for each of these type of magnetic media, the process may be analogous to that for the optical process 522 at the formation step 534.

Firmware 528 may also be selected as a computer-readable medium. The firmware may be a chip 466 imbedded in a substrate such as a plastic card. The chip may contain computer-readable information that can be accessed when the chip is positioned to be accessible by a computer. Technology

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may dictate many aspects of the chip including its shape. The manufacturing process may then be analogous to the optical medium process 522 at the formation step 534.

Referring to FIGS. 18 & 20, content selection 514 may include the selection of the other information 486 corresponding to data files and executable files. The data selection 550 may depend on the data the vendor wants to convey to and collect from a user. Executables selection 552 may depend on whether the executables are organic 534 to a user's system installable files 556.

Referring to FIG. 18, writing 516 may be directly related to the type of medium selected. The labels may be examined 518 for quality control and then be available to be affixed to a product by a suitable means.

From the above discussion, it will be appreciated that the present invention provides a product labeling apparatus and method that provides entertainment or other useful products to a user, while providing links and implementation thereof back to a vendor of services or products. Advertising impressions and hot links may continue long after a product is used. Accordingly, user information may be provided for use by user, a vendor, or both. Meanwhile, product information may be provided from a vendor to a user. The data and software provided on a product label containing a computer-readable medium may thus facilitate the data needs of a vendor while providing a personal data repository for ready control and access by a user. Meanwhile, focused links may provide ready communication over the internet between a vendor and a purchaser for the benefit of each.

The present invention may be embodied in other specific forms without departing from its essential characteristics. The described embodiments are to be considered in all respects as illustrative only, and not restrictive. The scope of the invention is, therefore, indicated by the appended claims, rather than by the foregoing description. All changes within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed and desired to be secured by United States Letters Patent is:

1. An article of manufacture, comprising
a product displayed for sale to a retail purchaser at a retail site, and
a hang tag advertising to the retail purchaser the product, the hang tag comprising a computer readable medium distinct from the product and storing instructions executable by a computing device of the retail purchaser, and
a tether suspending the computer readable medium from the product.
2. The article of manufacture of claim 1, wherein the tether secures the computer readable medium to the product such that the computer readable medium comprises a physical object providing thereon advertising information directly visible to the retail purchaser shopping the retail site.
3. The article of manufacture of claim 1, wherein the computer readable medium comprises an optical disc readable by a compact disc drive.
4. The article of manufacture of claim 1, wherein the computer readable medium comprises an optical disc readable by a DVD disc drive.
5. The article of manufacture of claim 1, wherein the computer readable medium comprises an optical computer readable medium.
6. The article of manufacture of claim 1, wherein the computer readable medium comprises an electromagnetic computer readable medium.

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7. The article of manufacture of claim 1, wherein the computer readable medium comprises a chip.

8. The article of manufacture of claim 1, wherein the product comprises packaging and the tether suspends the computer readable medium from the packaging.

9. The article of manufacture of claim 1, wherein the computer readable medium stores computer readable data about the product.

10. The article of manufacture of claim 1, wherein the computer readable medium stores computer data about a source of the product.

11. The article of manufacture of claim 1, wherein the computer readable medium stores data that a playback device presents to a the retail purchaser.

12. The article of manufacture of claim 1, wherein the computer readable medium has an external shape that conveys information regarding a source of the product.

13. The article of manufacture of claim 1, wherein the tether comprises string.

14. The article of manufacture of claim 1, wherein the computer readable medium comprises a penetration, and wherein the tether extends through the penetration to secure the computer readable medium to the product.

15. The article of manufacture of claim 1, further comprising a sleeve, wherein the sleeve holds the computer readable medium, and the tether suspends the computer readable medium from the product by suspending the sleeve from the product.

16. A system comprising:
a retail site corresponding to a vendor;
an embodiment of a consumer product corresponding to a supplier, the embodiment displayed and offered for sale at the retail site;
a tag displaying advertising to a shopper of the retail site, the advertising corresponding to at least one of the vendor, supplier, and consumer product, the tag comprising a computer-readable medium distinct from the consumer product and storing instructions executable by a computing device of the shopper; and
a link comprising a mechanical fastener connecting the tag to the embodiment, presenting the advertising visible to the shopper.

17. The system of claim 16, wherein the computer-readable medium comprises a logo corresponding to at least one of the vendor, supplier, and consumer product, the logo being printed on at least one external surface of the computer-readable medium.

18. The system of claim 16, wherein the computer-readable medium comprises a trademark corresponding to at least one of the vendor, supplier, and consumer product, the trademark printed on at least one external surface of the computer-readable medium.

19. The system of claim 16, wherein the computer-readable medium is shaped to identify at least one of the vendor, supplier, and consumer product.

20. A system comprising:
a retail site corresponding to a vendor;
an embodiment corresponding to a consumer product provided by a supplier, the embodiment comprising the consumer product contained within packaging, the embodiment displayed and offered for sale at the retail site; and
a tag distinct from the consumer product and connected to the packaging and displaying, to a shopper within the retail site, advertising corresponding to at least one of the vendor, supplier, and consumer product; and

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the tag comprising a computer-readable medium distinct from the consumer product and storing instructions executable by a computing device of the shopper.

21. The system of claim **20**, wherein the computer readable medium comprises a logo, corresponding to at least one of the vendor, supplier, and consumer product, printed upon at least one external surface of the computer-readable medium. 5

22. The system of claim **20**, wherein the computer readable medium comprises a trademark corresponding to at least one of the vendor, supplier, and consumer product printed upon at least one external surface of the computer-readable medium. 10

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23. The system of claim **20**, wherein the computer readable medium is shaped to identify at least one of the vendor, supplier, and consumer product.

24. The system of claim **20**, wherein the computer readable medium further stores at least one of product facts, source facts, new product facts, service facts, a data gathering interface, and a network identifier corresponding to a location of additional information.

* * * * *